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THE FARMER'S MAGAZINE

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January 1917

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TORONTO, CANADA

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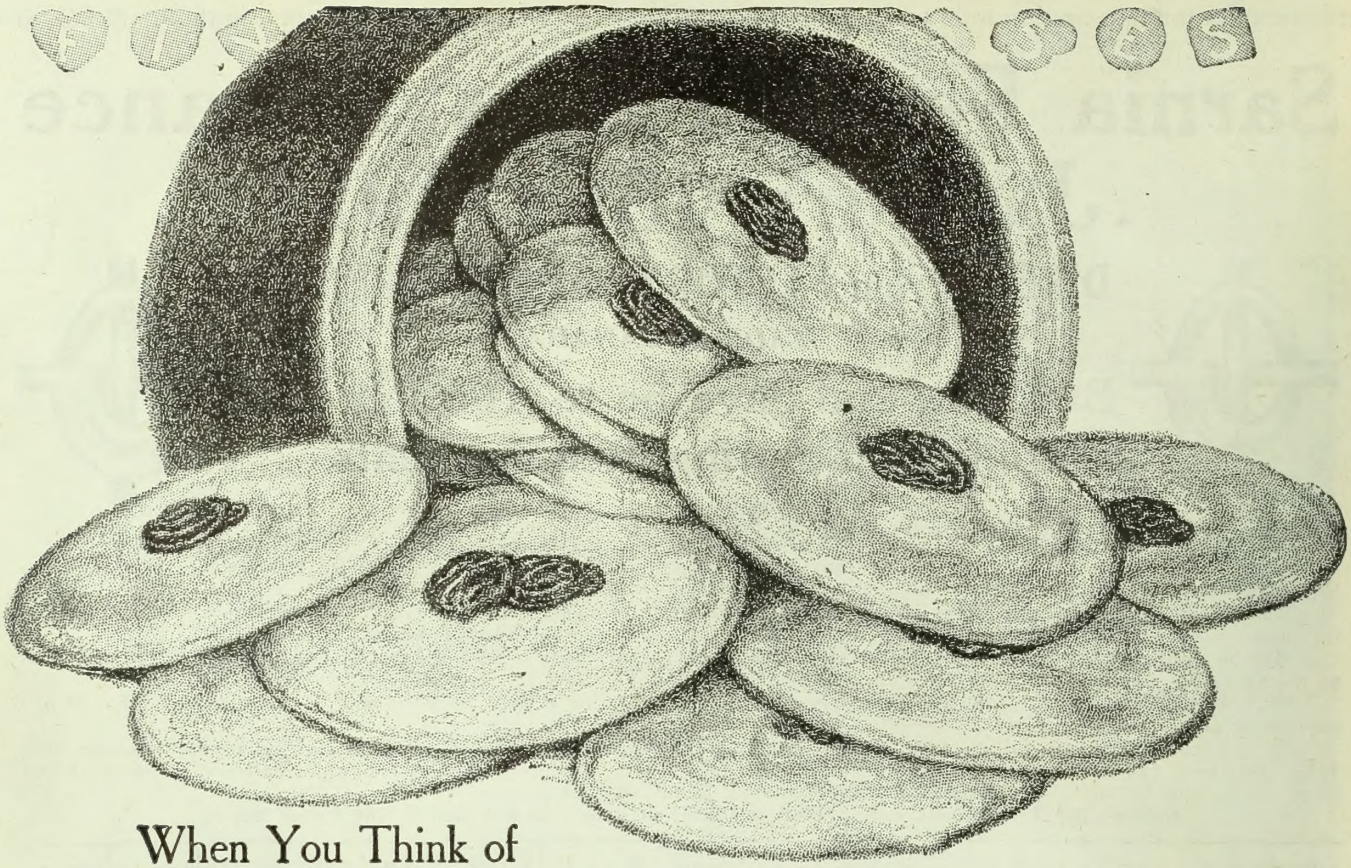

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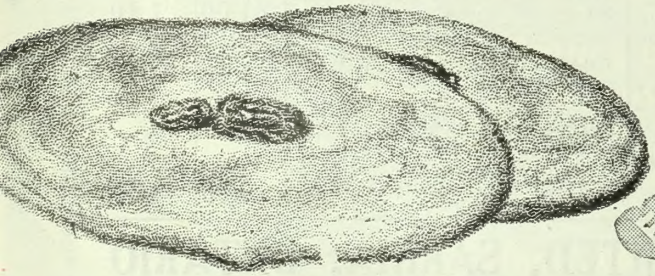

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The Farmer's Magazine

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JOSEPH MCGOEY, *Manager.* ETHEL M. CHAPMAN, *Assoc. Editor.*

JANUARY, 1917

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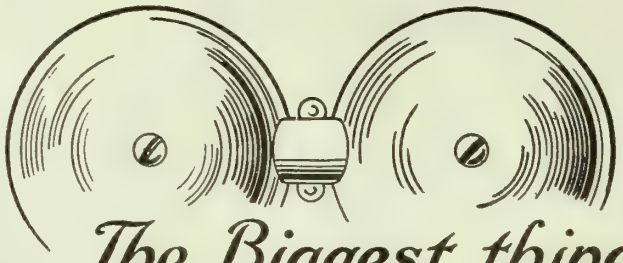

The Biggest thing on the farm

THINK MAN, what you miss when your farm lacks the telephone!

¶ You miss up-to-the-minute market reports that your competitors in the next township get every day. That costs you money—real money time and again, when shrewd men who *know* the market take advantage of your isolation.

¶ You miss the *economy* of being able to telephone for supplies. Instead you must take a horse and man from work to go on errands. Think how often that has cost you half a day for man and beast. The telephone would save you that loss.

¶ You miss the *safety* of being able to telephone for help in case of fire—for the doctor in case of illness. Somewhere every day the telephone saves property and life—farmers who have it call the telephone "the shining little friend of humanity."

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¶ Why, listen friend, folks who have the telephone say

"ITS THE BIGGEST LITTLE THING ON THE FARM"

¶ Hundreds of Farmers who have telephones in their own homes, have helped us to prepare a new booklet entitled "How the Telephone Helps the Farmer." Needless to say, it is one of the most interesting booklets ever published on this subject. If you are without a telephone, you should have a copy by all means. Asking for it won't obligate you in any way, so write to-day.

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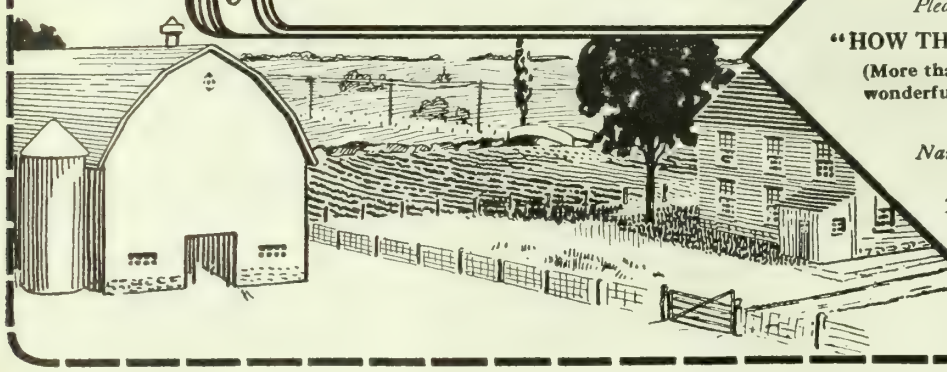

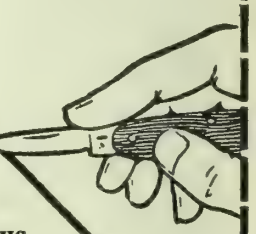

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The FARMER'S MAGAZINE

Volume X TORONTO, JANUARY, 1917 Number 3

Why Winter Fairs Live

The Opportunity Farmers Have of Cashing in on Their Efforts to Excel in Any Line is the Real Crux of it all

By F. M. CHAPMAN

IN MANY a farmhouse here and there over Canada, may be seen a framed copy of that celebrated French painting by Rosa Bonheur, entitled "The Horse Fair." The picture never fails to start an impetuous train of ideas through the mind of the onlooker. For in the touch of paint, there glows that majesty, enthusiasm, dash and expectancy which stimulates a responsiveness in every lover of animal creation.

And there is a joy in exhibiting some form of livestock perfection in which the participant alone partakes. It is peculiarly *his* trumph. He has had the vision of the type and has scientifically figured the way to secure it, through the manger and the feed lot. He knows the values of sun and of pure air, as well as the physiological benefits of change and of temper.

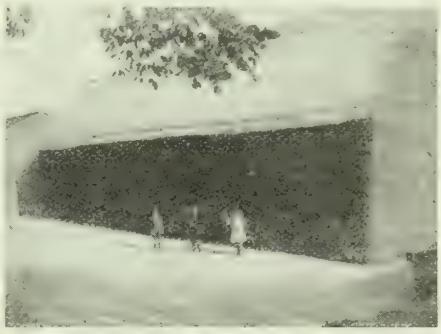
As a boy, he has perhaps studied the laws of production and creation, in the development of his Dorkings or the sprightly bred-to-lay Leghorn. The elimination of an undesirable quality, the proper matings to secure an emphasis here or a recession there, the importance of heredity as well as feed and environment —all these deep things in animal procreation have unlocked to him possibilities at his own command. His awakened curiosity whips him on.

In Porcine rotundity, in Ovine sleekness his critical judgment is educated. The study deepens with the longer gestation periods of the Bovine and Equine types. The Shorthorn, the Angus, or the dairy conformation challenges his fullest powers. He finds that there are real laws behind his animal generations—and Mendell's theories are studied. It is this knowledge of feeds and feeding, combined with the study of genetics that accounts for the showman's zeal and the breeder's silent worship.

When the horses—*massively magnificent, and splendidly impressive incarnations of animate powers, thundering out of the great arena*—as Alvin Sanders, of the *Breeders' Gazette* remarks in one of his recent books—catch a man's enthusiastic fancies for face and form, perhaps the highest joys in the breeders' soul are recorded.

Rosa Bonheur caught this spirit in her justly celebrated pictures.

The breeder's art is, however, quite a different thing than blending pigments on a canvas. The making of a masterpiece in oil, undoubtedly demands genius. The production of a Roan King, a Marathon or a Sunbeam of Edgeley requires something more than this in the assembling of all the materials and forces that go into the perfecting of a grand champion, particularly at the big livestock shows that Canada is creating at Guelph and other places. Since Bakewell, the father of British improved livestock work startled orthodox notions, blood lines have had everything to do with final success. The power of concentrated blood elements in fixing and holding desired characteristics is to-day understood by many.



The largest hay stack in England. Length 30 yds., width 11 yds., height to ridge 30 feet. Contains approximately 300 tons. The builder, Mr. Warren, of Ipswich, his son and the government officer, who has purchased the stack for the army, standing near. Thatched in true English style.

Clydesdale quality. The champion at Regina, 1915, and at C. N. E., Toronto, 1915, and first in his class at Guelph in December last. John Bright says that horses will be in great demand after the war.

IDEALS OF BREEDERS INVALUABLE.

James Leask, of Ontario county, has fed many grand champion cattle both at Chicago and at Guelph. He has met severe competition. His art still marks him as a scientific feeder and a genetic artist.

This year he carried a string of winners—Angus crosses sired by the same Lowe bred bull of Elora, *Middlebrook Prince* 4TH, 6928. Blue King, the proud champion was as typy a two-year old steer as the artist could image. He won grand championships at Guelph and Toronto, going for Christmas beef at 50c. a lb., making a total of $695 for his owner, not including his winnings in the ring. The grand champion steer from California at the big International in Chicago sold for $1.75 a pound, bringing its price for beef around the $2,000 mark. Thus the commercial and the ideal travel together.

IDEALS HAVE A MONEY VALUE.

Despite the fact that the everyday average breeder seems to get along fairly well; that the common herd is argued to be good enough for the common man, yet the maxim holds that the man with ideals saves the world and makes possible to the others, their present good. Without it, the horse degenerates to the mustang, and swine to the razorback. The blood lines established by a Colling, a Bates or a Cruikshank; the ideals of a Baron's Pride, a McQueen or a Brilliant are quivering in active reproductions on thou-

J. Lockie Wilson, the man whose enthusiasm has helped farmers in their field crops.

sands of farmsteads in America. The type has been assured by the visions of the idealists.

It is this hanging of a halo around the apparently commonplace, that has produced the real progress in animal breeding. To inspire others with that love, is the part that Boys' and Girls' clubs and the Junior Farmers' are doing in the re-education of a Canadian countryside back to its first love.

The Province of Ontario has given encouragement for some time to the Boys' and Girls' clubs, the Rural School Fair, Standing Field Crops and special classes for beginners in livestock exhibitions. Doubtless the idea came from the South, but the work was not slow in being adapted and the results are magnificent. Today we have a love of agriculture taking firm root in many a young farmer, and others from urban environments. The working of the District Representatives has excited to better efforts. Many of these young men enlisted the sympathies, caught the fancies and encouraged the natural bent of hundreds of young farm boys, who stood in that debateable "no man's land," between the visionary and the real. By their efforts he has caught the gleam of the dignity of agricultural pursuits. He finds both art and scientific research at his elbow, and an attractive life work opens before him. Too true, he is impeded with many briers and brambles, but the vision calls through it all and the real results of the work that is now being done in every school section and township, will be the best read in the economic and the spiritual history of the oncoming decades. z

The inter-county judging contest, recently inaugurated, brought out 17 counties each with three young men. In all, over 50 young farmers have been studying the ideal animal. Their estimates of agricultural usefulness have been expanded immensely. Horses, sheep, cattle, both dairy and beef, and hogs were the subjects of study. Theory was checked up by the living facts, at every turn. Being farmers' sons they had that inborn mother wit or commonsense, which is so great an asset of the farm-reared.

At Ottawa this month the Eastern group of counties will pick their winning trio of lads. Then the two winners in the groups, York County and the winners at Ottawa, will meet at the Union Stock Yards, Toronto, in February, at the time of the Dominion Breeders' Annual Meetings and there fight for the over-all honors for Ontario. The boys will be entertained at the expense of the big packers at the Union Stock Yards. This is the culmination of the good work now going on in every county.

SEED FAIR SHOULD GROW.

Equally, if not in many respects greater than this work, is the educational development carried on by J. Lockie Wilson's department in the Standing Field Crop Competitions. It touches the life of the every-day farmer at any important centre. It made possible the luxurious grass, and the golden sheaves of the feed barn. It touches agriculture at the beginning. Good seed is essential in all livestock work.

The ball was set rolling when the Stand Field Crop competitions were first inaugurated. The demand for pure seeds is getting stronger. Farmers are getting rid, though slowly, of the idea that any old seed will do. The strong germination always wins out. The yields are greater from a well sown and carefully selected seed bed. Weeds flourish too much because they are sown in the farm fields, not by an enemy, but by the farmer himself through his imperfectly cleaned grain.

And the farmers are paying good prices for pure seed with a character. The sale of the prize-winning bags at Guelph revealed this, as it will be at Ottawa this month. The grand champion oats brought $5.50 a bushel. But that is not all the benefits to the clean grower. Thousands of bushels of seed oats, barley, wheat and peas were sold privately because the buyers got in touch with other men who could sell. And that is one way the big fairs should follow faster in increasing their service to the whole country. R. W. Wade, the secretary of the Guelph show, undoubtedly one of the finest shows in America, in the December issue laid down sensible rules for the holding of shows so as to better satisfy the visitors' appetites for information. This other side of the case is deeper than the show. It builds up production and helps distribution along profitable lines. The Winter Fair should be what fairs formerly stood for—a market as well, where buyer and seller of high-class animals and seeds met to do business. With the requirements of entry so rigid in the matter of seeds, the guarantee is sufficient to warrant free purchases at reasonable rates. If better accommodation in the auctioning of the seeds were provided, this feature would be a big drawing card for future fairs. An unexcelled seed mart should be an adjunct to the seed show. In fact the most substantial end of better seed production lies in the ability of the farmer to make money out of his labor. If the seed fair provokes production only it has failed and will rightfully perish when the novelty wears off. Financial success seldom fails to hold one's interest. Marketing is the big question with most of the farmers.

Other stacks, thatched by an Englishman, but on R. J. Fleming's Pickering farm, where the big plowing match was held.

C. F. Bailey, whose energy is counting for much in the development of a keener love for farm occupations in many young men.

Success in agriculture, financially, demands constant study in methods and market requirements. There is considerable reward to the man who concentrates on his work. Leask is making money in his cattle business. Canadian seed growers on many farms are reaping big rewards. Wheeler, of Rosthern has not labored in vain.

That is why the poultry show has grown to such proportions. The show is a market place for the breeders. The chicken men are all keen traders and appreciate the dollars the opportunity gives.

LARGER BUILDINGS WANTED.

The moral is obvious. The Guelph show is at a critical time. It must grow or else wane. Its buildings should cover at least thrice its present space. Opportunity should be given for fullest extension in every department and an arena for showing that would accommodate something like the proportion of Canada's people who want to see the show. Money spent on a big national fair such as this not only reflects credit on the personnel of the government, but builds up agriculture upon the right lines.

The proper definition for a Winter fair includes in it the joy of excelling in exhibits, the financial rewards for excellence, and the selling opportunities afforded. Only such a liberal combination of the ideal and the practical can warrant the expenditure and attention.

The Birth of Western Agriculture

By NORMAN LAMBERT

ALTHOUGH the discovery of the greater Middle West of Canada, now classified as Manitoba, Saskatchewan and Alberta, takes one away back to the expeditions of Groseilliers and Radisson, prior to 1670, in which year, through the representations of those two intrepid explorers, the Hudson's Bay Company was formed in England, and fifty years later, to the remarkable travels of Pierre de la Verandyre and his three sons across the prairies by way of the Assiniboine and Missouri rivers to the eastern slopes of the Rocky Mountains, the thought of great agricultural development in Northwestern Canada, or Prince Rupert's Land, as that vast area was known up till 1870, was never seriously entertained until the Dominion was formed and the first transcontinental railway line was constructed.

Old Fort Garry as it appeared in 1872.

The earliest beginnings of agriculture in the West seem to date back to the coming of the Selkirk settlers to Kildonan, on the banks of the Red River, in 1813. The pioneer voyageurs in the employ of the Hudson's Bay Company and the Northwest Fur Company, never bothered about the qualities of the prairie soil. Their provisions were shipped to them from the old land, and they were more interested in fur trading with the Indians, and in exploring the waterways of the far north and west, leading out to the Pacific Coast, than to agriculture. The Scottish settlers on the banks of the Red River were the first to attempt the cultivation of the land, and the reaping of crops. The Selkirk settlement was composed at the outset of some two hundred Scottish and Irish immigrants, a hundred German soldiers, and a varying number of French traders and half-breeds. They had a few domestic animals to start with, and through necessity, more than an interest in farming, the little community at Kildonan commenced to raise its own crops of grain.

The hardships of pioneer life in Eastern Canada were repeated there, on the threshold of the great Northwest. The winters were spent at Pembina, farther west, in the hunting of buffalo, and each spring the settlers returned to the junction of the Red and Assiniboine Rivers to sow their areas of grain. Their farm implements in those days were the spade and the hoe, and the sickle and cradle. The grain was threshed with a flail, and ground into flour by the use of the old-fashioned quern made of two flat stones between which the wheat was crushed. It was the second year of their settlement at Kildonan that food became so scarce that a proclamation was issued by the Governor of the Hudson's Bay Company, Captain Miles Macdonell, to the effect that "provisions, flesh, fish, grain or vegetables, were to be taken out of the lands of the settlement for a year." Incidentally, that proclamation led to the temporary breaking-up of the Selkirk colony at the hands of the Northwest Company traders who at that time were at daggers drawn with the representatives of the Hudson's Bay Co. It was not until after the Battle of Seven Oaks and the final settlement of the feud by a union of the fur companies in 1821, that the people of Kildonan were able to resume their farming operations with a degree of security. Then, just as the land was beginning to yield a living to the persevering farmers, a series of disasters befell the country. For three seasons in succession, clouds of grasshoppers swept over the prairie, and laid waste to all grain and pasturage belonging to the settlers. A few years later, the Red River overflowed its banks, sweeping over the neighboring fields and driving back the people while their barns and houses all were destroyed. These misfortunes did not overwhelm the Selkirk colony, which bravely fought its way through to better and brighter days.

In 1831, it is recorded, the Red River Settlement contained 2,731 men, women and children. There were 2,152 acres under cultivation, and the buildings comprised 375 houses, 265 stables, 134 barns. The holdings of livestock included 410 horses and 1,442 head of cattle. Lord Selkirk, when he first brought his colonists to Canada, had the vision of settling the western plains and developing them with the immigrants from the Old Country, but his idea was premature. The agricultural production of the West in those days could not exceed a certain volume without involving much waste and loss. There were no markets at hand, or railways by which more distant markets might have been reached. The Selkirk community, therefore, like the settlers who were to come after them for many years, could do little more in an agricultural way than supply domestic needs.

With the death of Lord Selkirk in 1820, and the union of the two fur trad-

Big Things Ahead

In the February issue Mr. Lambert, who is particularly well qualified to write on the subject, will give us a pen picture of Pres. Wood, of the United Farmers of Alberta. The blending of Western farm interests is one of the big hopeful signs of the times. And the new man at the head of the U.F.A. is a farmer. Following him comes the story of another big Westerner. Should the farmers put up candidates for the Federal Parliament? Leters on this subject will be welcome.—Editor.

The Star in the West

THE NEW movement in farm politics whereby the grain powers have linked up with the Manitoba and Alberta Elevator Companies was one of the big events of December. *The Financial Post*, a paper for investors, and the leading weekly in touch with business in Canada, in a recent issue said:

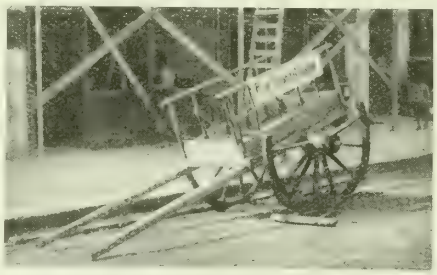
"The fact then that the Council of Agriculture at Winnipeg convention laid down a pretentious political platform is worthy of national attention. These farmers are naturally seeking reforms which they believe will be a direct aid to agriculture, such as the reduction of the duty on goods imported from Great Britain to half the rate charged under the general tariff, with further reductions in the remaining tariff which will ensure free trade between Great Britain and Canada within five years, a reciprocity agreement with the United States, and that all food stuffs not included in the reciprocity agreement of 1911, be placed on the free list in addition to agricultural implements, farm machinery, vehicles, fertilizers, coal, lumber, cement and illuminating fuel and lubricating oils; further, it is asked that the customs tariff on all the necessaries of life be materially reduced and that all tariff concessions granted to other countries be extended to Great Britain. It is suggested that the additional revenue required be made up by direct taxation on certain things. These would include a tax on unimproved land values and all incomes over $4,000, as well as inheritance taxes on large estates and a tax on the profits over 10 per cent. of corporations. The Council also favors the nationalization of all railways and express companies, the letting out of short term leases at public auction for natural resources, the publicity of all public campaign funds, abolition of the patronage system, a federal franchise for women and full political autonomy in regard to liquor legislation.

"Those who have studied Canada's economic position will find in the farmers' platform many things which it would not be to the advantage of the country as a whole to adopt. At the same time, there are others warranting very serious consideration. If the chief problems are all freely discussed on broad lines a better opportunity would be afforded of working out solutions to the benefit of the whole community."

ing companies one year later, the control of the Great West, including the control of the Red River Settlement, passed into the hands of that autocratic young Scotsman, Sir George Simpson, who was governor of the Hudson's Bay Company for forty years. Simpson was a great trader, and business organizer, and he did much to bind the West, from the head of the lakes to the Pacific Coast, with British traditions. But he never would have made a good farmer. He was actually opposed to the idea of the extension of agriculture outside of the District of Assiniboia, and so far as the present provinces of Saskatchewan and Alberta were concerned, regarded them as so much buffalo pasture. Testifying before a select committee of the House of Commons in 1857, Governor Simpson said: "I do not think that any part of the Hudson's Bay Company's territory is adapted for settlement; the crops are very uncertain." Along the Saskatchewan River, he claimed, the climate was particularly rigorous, and the crops more uncertain than elsewhere. The scarcity of timber he considered a great barrier, and said, "there is little or no wood in the country." The District of Assiniboia in those days extended over a circular area of land with a radius no greater than fifty miles from Fort Garry. It was governed by a local council which for many years was nominated by the Hudson's Bay Company. Within that small area, the little, pompous governor of the great company would have confined all agricultural enterprise, and this notwithstanding the fact that at Ft. Cumberland, one of his own posts, on Sturgeon Lake, just a little west of the present town of Pas, agriculture had been practised for some time. Sir George Richardson, the famous naturalist and explorer of the Franklin expeditions, had also made the statement before Governor Simpson gave his evidence before the select committee of the House of Commons, that wheat grew quite freely as far north as the banks of the Saskatchewan.

For innumerable generations, the wide western prairie lands for the greater part remained the home of the Indian and the buffalo. Explorers, traders and hunters connected, as a rule, with one or other of the big fur companies, found their way through to the mountains, but the rancher and the farmer did not begin to seek the West really until after Confederation. In the middle 'fifties, however, the interest manifested by the people and the Government of Canada in the territories of the Hudson's Bay Company led to the organization and despatch under the Provincial Secretary of Canada, of the Assiniboine and Saskatchewan Exploring Expedition. The man appointed to take charge of the expedition was Professor Henry Youle Hind, of the Department of Chemistry and Geology in Trinity College, Toronto. His report was published in 1859, and contained much valuable and interesting information about the extent of the areas of fertile and arable soil lying between Fort Garry and the Moose Woods, or in present day parlance, between Winnipeg and Saskatoon. It was on the areas sketched and described by Professor Hind that the beginnings of agriculture were undertaken prior to the transfer of Prince Rupert's Land to the Dominion of Canada. In the northern country bordering the Saskatchewan River, between Cumberland House and Prince Albert, and south in the Qu'Appelle Valley, at Fort Qu'Appelle, was done the pioneer work in the present great agricultural province of Saskatchewan. And in that work, in which the fur trader had been indifferent, and even hostile, the Church took the leader's part.

In a most interesting work prepared this year by Rev. Principal Edmund H. Oliver, Ph.D., of the Presbyterian Theological College, Saskatoon, and now of the 196th Western Universities Battalion, on the beginnings of permanent settlement in Saskatchewan apropos of the Jubilee of Presbyterianism in that province, a valuable chapter is devoted to the economic influence which the church exerted upon the early life of the western plains. At Qu'Appelle, which is now the centre of one of the richest farming districts in Western Canada, agriculture was first associated with mission work. "Even before the establishment of the mission in 1858," says Dr. Oliver, "a catechist, Charles Pratt, constructed a comfortable log house on the spot and fenced in a garden." When the Hind exploring party visited Qu'Appelle in the late 'fifties, Pratt possessed six or seven cows and calves. A native of Cree origin, named Rev. James Settee, arrived in 1858 to become the regular missionary. A part of this man's duties was to teach the Indians, especially the children, to cultivate the soil. It is recorded that when the Crees of the Sandy Hills learned that the Bishop had sent a missionary to them, they enquired whether or not the great praying father had sent plenty of rum, and if so, they would readily become followers of the white man's good Manitou. Despite the fact that he had brought no rum with him, Rev. Settee remained amongst his Indian brethren, and found time to practise agriculture in addition to teaching the gospel. In his own garden he grew Indian corn, potatoes, turnips, beans, and other vegetables. Professor Hind wrote what he saw at Qu'Appelle as follows: "All the vegetables gave promise of fair and remunerative crops. The potatoes were superb; turnips, both Swedes and white, remarkably fine; Indian corn, from seed grown on the spot last year, in silk; wheat rather too rank in the stalk, measuring 5 feet 3 inches in length to the ear, which was well formed, but green, and it seemed doubtful if it would ripen."



One of the first settler's carts to come from Winnipeg to Prince Albert in 1876—going 600 miles in 50 days.

In the more northerly part of Saskatchewan, around Prirnce Albert, a very interesting experiment in agriculture was undertaken by Rev. James Nisbet, the first Presbyterian missionary to proceed past Fort Garry and take up work on the plains of the middle West. He arrived on the banks of the North Saskatchewan in 1866 and founded the present city of Prince Albert. One of the first things he did after getting settled, was to build a school and establish an industrial farm for the support of the mission. Three wooden plows, costing six pounds, ten shillings each, a threshing machine valued at 75 pounds, on which the cost of transport was 22 pounds, a fanning mill at 7 pounds 12 shillings, a reaper, a flour mill, harness produced from home-made leather, at 16 shillings, scythes, spades and hay forks at 5 pounds 5 shillings, constituted the equipment of Mr. Nisbet's mission farm. In "starvation years," it is written by Dr. Oliver, "of which there were three between 1866 and 1873, much produce was given to needy Indians and settlers. In 1872, the mission at Prince Albert was inspected by a superintendent of the church, and shortly afterward the industrial feature of the mission was discontinued. But largely through the inspiration and example of the mission farm, a number of excellent farms were established in the neighborhood of Prince Albert in the early seventies. It should be mentioned that Mr. Nisbet raised his largest crop from his little farm in 1869, when over 600 bushels of wheat were sown. Much of the produce of that year was exchanged for meat procured on the plains, and it is interesting to find that the price set for the wheat at that time was 10 shillings per bushel. Potatoes brought 4 shillings per bushel, barley 6 shillings, and turnips 4 shillings.

In the late 'sixties, and the early 'seventies, there was an increasing intercourse up and down the Saskatchewan River, between the post at Prince Albert and the post at Edmonton, and from Fort Garry across the plains to Prince Albert. With the consummation of Confederation, involving the conclusion of the regime of the Hudson's Bay Company in the West, however, no one could have foreseen the wonderful transformation which another half a century would effect. In 1870, just before the Red River Rebellion broke out, the western plains were still largely inhabited by roving bands of savages. Some twelve thousand people, of whom ten thousand were half-breeds, were centered about the Red River Valley, where the Selkirk colonists first settled. The agricultural possibilities of the prairies were just beginning to be suspected. The change which was to be so far-reaching, came quickly with the entrance of the C.P.R. Before the railway crept across the southern end of the prairie plains, linking the Middle West with the older provinces of the East, people usually found their way to Manitoba and the Northwest by way of the United States. The means of transportation in the interior were limited. Canoes were used for the rivers, and the old Red River carts with their creaking wheels were used for the long journeys by prairie trail. When the Red River Rebellion was suppressed, many of the men who went to the West with General Wolseley's troops, remained there to take up land and settle in that new country. Just about this time, too, the range land of present Southern Alberta began to be settled. The last big Indian battle occurred in the autumn of 1870, in the valley of the Belly River, and three years later the first detachment of the Royal Northwest Mounted Police established itself at Fort Macleod, which is now the town of Macleod and one of the oldest and most historic points in the far

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Is Margarine Worth While?

By MACKENZIE HALL

CONSIDERABLE agitation has recently been apparent, especially in some city papers, over the admission of margarine into Canada. Certain city papers whose circulation is with the big consuming classes of the cities, have argued for the removal of the embargo against it. The farm papers in all parts of Canada have been equally as strongly opposed to the proposition. Admittedly, there are a number of evils attendant upon the sale of this substitute for butter, and the question that the calm, dispassionate woman is asking is, *are its admission and use in Canada worth while?* Let us examine the case.

What is Margarine? It appeared as a substitute for butter during the time of the Franco-Prussian war in 1870, just as many substitutes are being pressed into service in other lines in these war time price soarings. Napoleon III. offered a prize for the best substitute for butter and it was won by a French chemist, Hippolyte Mege. He surmised that the formation of butter contained in milk was due to the absorption of fat contained in animal tissues. From this he was led to experiment on the splitting up of animal fat; and from this experimentation resulted his butter substitute.

The modern way as practised in the U.S. consists in taking the caul or inner fat of beeves, cutting it up fine by machine and melting it in steam-heated cauldrons. The clear oil is siphoned through a series of cauldrons under controlled temperature. It stands a few days at a favorable temperature for crystallization of the stearin (the main component of fat). After being submitted to powerful pressure the oil solidifies in a tank of cold water and this is known as *oleo oil.* Another constituent is neutral lard. This is prepared from the leaf and back fat of hogs treated in the same way as the beef fat. Cottonseed oil is largely used also in the U.S., and in England nuts and milk are used.

The mixture is then churned in milk to impart a butter flavor. The mass is worked and salted like butter, then packed for the trade. Coloring is sometimes used.

ITS CHEMICAL ANALYSIS.

A chemical analysis of oleo margarine shows the average composition as follows:

Oleo oil	34.26%
The constituents of milk	28.09%
Neutral lard	16.27%
Cottonseed oil	14.26%
Salt	7.12%
	100.00%

The chemical chemist is able to detect oleo-margarine by making use of the fact that it contains a large percentage of fatty acids, not soluble in water and a lower percentage of those volatile with water vapor than butter does. There are other tests, and some simple domestic tests; and the expert may be able by the sense of taste and smell to distinguish between margarine and butter, but even professed experts have been frequently deceived, and the laboratory test is generally the only sure method of determining whether the product is butter or oleo-margarine.

The Oleo Question in Brief

Its Merits.

1. A Nutritious article of diet.
2. Chemically about equal to butter.
3. Can be sold much cheaper than butter.
4. Hardly distinguishable from butter.
5. As a food product, it has a right to a place on the market.

Its Disadvantages.

1. Lacks the growth properties of butter, being an inert and neutral fat.
2. It is repulsive to many. They object to using it even if concealed.
3. Fraud in its sale is encouraged.
4. Dairy farming is discouraged at a time when our West is going into it.
5. Butter at ruling pre-war prices is better value.
6. Canada's conditions do not demand congested-urban old-world panaceas.
7. The poor man has generally believed he was getting butter. It is therefore a deception.
8. Despite the clarifying, where the fats come from cannot be overlooked. Their place seems to be in soap.

Holland is the greatest centre in Europe for its manufacture where the consumption before the war was 20,000,000 lbs. weekly, while the U.S. use of it is about half a billion lbs. a year. England uses a billion a year.

ITS USE AS FOOD.

A large number of people seem to think that oleo-margarine is a legitimate article of food and highly nutritious.

Charles Boldaun, M.D., director, Bureau of Public Health Education, New York, in a recent issue of the *Scientific American,* in discussion of economical rations for the times, includes oleo-margarine in his list and declares it to be a very satisfactory substitute for butter, although its use in public institutions in New York State is prohibited.

Experiments that have recently been conducted by Dr. E. V. McCallum, of Wisconsin, and others on feeding white rats on chemically pure protein, starch fat, sugar and various salts. In every case they got along splendidly for four months, when they lost appetite, fell off in growth and finally starved. They found that when milk was added to the ration, the rats began to thrive and grow to maturity. When butterfat was substituted for the neutral and inert lard or fat the same change for the better took place.

It is not all humor that prompts Prof. Dean, of the O.A.C. to say:—

"If butter substitutes are found on our tables in Canada, we may expect a deterioration in physical and mental development of Canadians, which in time may lead to not only family and neighborhood quarrels, but to wars. It is not too much to assume that much of the world-strife may be avoided by using plenty of good butter to oil the brain machinery of the world."

Our advice to all readers of the FARMER'S MAGAZINE *is to petition your member of the Federal Parliament to be on his guard.—Editor.*

It is quite plain, therefore, that there is an energy, a growth power, present in butter that is not found in oleo, and which cannot be detected by chemical analysis. That oleo can be a safe article of food for growing children is thoroughly dispelled by these investigations.

As an article of food it has a place alongside all other creations of man, in the dietetic line. But are its manufacture and sale attended by evils which endanger the production of butter and the encouragement of agriculture in a country so largely devoted to farming? To any one who has reviewed the history of its taxation, and restricted output in other countries, it becomes abundantly plain that the manufacture and sale are attended by much fraud. The least objectionable method has been that employed by Great Britain. The law there requires that the word "margarine" shall be separated from all other confusing or obscuring printed matter, and printed in plain letters at least 1½ inches square. No pictures of cows or dairies may be used, nor any brand name be added to the word "margarine" except after this name has been specificaly approved by the Government.

When margarine is exposed for sale in the shops, it must be placarded as such in letters at least six inches high. Customers must ask for the product by name, and purchases must be wrapped in paper on which the word "margarine" is boldly printed, top, bottom, and sides.

WHO WANTS IT?

Now who is calling for this butter substitute? Assuredly in Canada there has been no clear call from consumers for it. Hard times have not been felt yet in the urban centres. Good wages and plenty of work have enabled the industrial masses to buy all the butter they want.

Undoubtedly this agitation comes from the men who would make money by its manufacture. And these are chiefly the big packers of Chicago who have plants in Canada. It gives them an added profit as one of their by-products.

Certainly agriculture will be menaced by its introduction. A leading butter producer, a Conservative, and so not given to such sentiments by choice, remarked to me recently that if the government wanted to assist the consumer in this temporary list to high prices, they might take off the duty on butter coming into this country.

The figures of the last fiscal year for Canada show that we imported from the U.S. 86,796 lbs. of butter, and nearly as much from New Zealand. On this a duty of 3 and 4 cents a lb. was paid. The imports for 1913 were nearly a million pounds of butter, but the war's big export demand accounts for all the high prices here now. It is an exceptional situation. To cripple a legitimate industry in ever so small a way after the war for the sake of a few fortunes, and a questionable call from a healthy, butter-loving populace, seems to be poor politics. The calling of this, the *poor man's butter* is making an invidious distinction in a country where the least has as good right to his daily bread and butter as the rich man.

John Bright, the Dominion Livestock Commissioner, at Guelph, made the statement that the agitation in Canada for the

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The Fruit Grower

APPLE GROWING IN NEW BRUNSWICK.

APPLE growing in New Brunswick has been taken up on a commercial basis during the past 10 or 15 years only. Scattered orchards with a few trees had been planted before this, but little attention had been paid to them, and the returns from them were far from satisfactory. In many parts of our country, orchards are found that from lack of pruning are yielding small crops of inferior fruit, which not only do not yield the grower any profit, but hurt the sale of the better fruit. My experience is that the varieties hardy enough to stand the winter are plentiful enough to make the output of apples from New Brunswick fully as large as that from Nova Scotia. Our own orchard is only young as yet, and only two acres in extent, so that the yield is not very large. We aim to produce as large a percentage of No. 1 fruit as we can, and work on the following lines:

The land is cultivated as much as possible, and fertilizer provision made for the growing crop. The more you get from the crop between the trees, the more you get from your trees, is something that we have found out. The old theory that a tree will only produce a crop every two years is also nonsense, if the orchard is handled right. My experience is that the market is seldom glutted with No. 1 fruit, while lower grades find no sale whatever at certain seasons of the year. The grower who aims to put a good grade on the market finds a ready sale for all his apples at a paying price.

The recent Fruit Show at St. John, was an object lesson. Growers who had the reputation of honest packing of superior fruit, found ready sale for all fruit exhibits and for future sales, even though the market was flooded with shipments of low grade Gravensteins from Nova Scotia. It might be well not to plant too largely a variety that mature at the season when fruit that cannot be exported to the British market is dumped on the local market, and consequently stops the demand. The local market will take the fruit grown for some years yet, when it is put up in the way that the public want it. Quality counts first, last and all the time, and color follows closely behind. While a person who is shipping to the British market needs a variety that will ship well, the home market wants flavor and appearance and an apple that can be used at that certain season. Hence it is well, I believe, to have a variety of apples that will follow one after the other. There are certain varieties that seem to be especially suitable to New Brunswick, and grow to perfection.

These are notably the McIntosh Reds, the Fameuse, the Wealthy, and the Bishop Pippin. My own experience is any good dessert apple will sell, regardless of the season, if the purchaser finds that the pack is honest. The Transparent and the Astrachan followed by the Duchess, the St. Lawrence, the Gravenstein, the Wealthy, and McIntosh, for the Christmas trade, while the Bishop Pippin, the Wagner and the Spy will follow as choice dessert apples later on.

Among the cooking apples the Wolfe River, the Milwaukee, the Ontario and the Baxter, may be mentioned as varieties that stand the climate and are heavy bearers. It is needless to say that the more intelligently one looks after his orchard in the way of pruning, spraying and cultivating, the greater his success will be here.

Now, the New Brunswick apple is firmer and better colored than the same variety grown in any other district. The crisp sunny days of our fall months favor our apples in color and texture peculiar to the province. New Brunswick is rightly called "The land of the Big Red Apple."—Thos. A. Clarke.

RETURNS FROM FRUIT

To the Editor: I note from J. C. G., in "Rural Mail" in November issue and your reply. There is far more in this matter than you realize. If these people were honest it is plain they would sell at higher and fairer prices so as to obtain the highest amount of commission. J. C. G.'s experience is even more fortunate than mine..

During the last two seasons I have sent trial shipments of fruit and truck to various tomato commission men. This year during Exhibition week I shipped Duchess and Transparent apples, tomatoes and cucumbers, and these were sold (?) at 15c. per basket for the former and 9 and 10 cents respectively for the latter. Apples were all hand picked, the seconds were packed separately in 1½ bushel sacks and sold (?) at 25 cents per bag. Needless to say what we could not use after for ourselves or stock went on the dump-heap, until Thanksgiving time sales, for which we foolishly sent snow apples, which sold (?) again at 5 cents per basket, since when we shipped no more and never intend to.

I am convinced this has a great effect on the high cost of living, as there must be hundreds of farmers within a hundred-mile radius of Toronto who will not ship their overplus.

During the past summer we kept record and found that there was over a dollar's worth of fruit, vegetables and salads at our noon meal at prices retail as quoted in Toronto *Globe*.

If the same amount had been shipped to commission men they would have realized 10 cents gross. Think what this means to consumers! The remedy for this is a Government depot as obtains in the State of New York, where the goods are sold by public auction to the highest bidder, the authorities retaining a percentage sufficient to cover expenses.—J.K.

FRUIT RETURNS AGAIN

The letter of our subscriber was submitted to several wholesale fruit dealers in Toronto, but only one replied to it. Here is their letter:—

"Gentlemen:—

"Our experience during the past season has been that good and well packed goods have realized good prices. Unfortunately so much of the fruit that comes into our market is a very inferior grade and we confess that we are sometimes surprised at the high prices, at what is little better than rubbish, often brings.

"It is a fact that can be substantiated, we think, by all commission merchants that we are now receiving from Nova Scotia and British Columbia goods to sell in competition with our locally-grown, and which are selling much better.

"You will readily understand that it is not only his duty, but necessity, to the commission man to obtain all that he possibly can for the goods that he sells, as it is from his commissions that he has to live.

"Cursorily, I am looking at some apples sold on the 11th of September, we find them selling from 30c. to 35c. per basket; tomatoes we find selling from 30c. to 40c.; lopes, 40c. to 60c.; pears, 40c. to 50c.; cukes from 40c. to 60c. per basket.

"Snow apples have been at a premium this season, but we imagine that those named by your correspondent must have been some scabby worthless stuff, and we are sure that no good snow apples have been sold at the prices named"

"McW. & E."

REGULAR SHIPPERS vs. OCCASIONAL

There was a period last season when apples, such as Duchess, etc., sold for very low prices on account of their poor quality. Apples that are not hand-picked and that are received in a half jumbled up shape and after being roughly handled by the express companies very often sell to the pedlars. The fact of the matter is, unless a shipper has been sending in goods to one of the commission merchants here for marketing, for a number of years, very often he ships his stock in very poor packages and these do not command high prices at any time. If many of the shippers would only use the proper style of packing then their apples would command the highest prices on this market. We can give you instances where apples have been shipped by our regular shippers and they have always received the top market price, while on the other hand the shipper that sends in once in a while and then ships stock that is badly put up only receives half the market value. We have a great many shippers on our list who ship regularly to us through the season and who put their goods up properly and hence make money right through the season.—W. & Co.

Business of Farming

CENTRE OF PURE CLOVER SEED

THE DEVELOPMENT of New Ontario as a producer of clean, high-class clover seed was due to the keenness of vision and foresight of one of the early settlers, near Oxdrift, named Benjamin Brignall; who being from Pickering township, Ontario County, and having had some previous experience in the production of clover seed was quick to realize by the way the clover was growing along the roads and in the fields that the district possessed unlimited opportunities and possibilities undeveloped in this particular line. At one time this settler was somewhat discouraged; but filled with new hopes and visions as a result of the excellent growth of clover, he once more set a determination to succeed and commenced clearing land for the sole purpose of clover seed production. Two years later Mr. Brignall had 10½ acres of Red which yield him 87 bus. or a little better than 8 bus. per acre. He also had one-half acre of Alsike which yielded 5 bus. and 40 pounds or better than 11 bushels per acre. Being the first producer of seed, quite naturally it fell to his lot to purchase the first Clover Huller.

This season Frank Shapland, of Minnitaki, has been successful in the production of 140 pounds of Grimms Alfalfa seed. This seed was grown in rows 30 inches apart, got no protection during the past winter and should prove to be very desirable seed for foundation stock, being without a doubt, doubly hardy owing to the northern district in which it was grown.

Heretofore it has been the practice to sell all seed produced to speculators at or soon after threshing time. In 1913 a yield of 2,004 bushels was disposed of in this way. While this system of marketing gave fair satisfaction, yet its weak points were many. In the first place the identity of the seed was lost and hence Kenora District received none of the credit for producing same. Again, the price was too much below that paid by the Eastern farmer the following spring; and accordingly, owing to large increase in production and in order that better satisfaction might be had, and more harmony exist between the producer and consumer, as in this particular instance, they are both worthy tillers of the soil, the farmers of Kenora district have organized themselves into an organization known as the Kenora District Co-operative Clover Seed Growers Association, with head office at Oxdrift, and T. J. Latimer, of Oxdrift, secured as manager and salesman. A large power-clipper cleaning mill has been purchased and installed, and it is the intention of the society to clean, have government graded and store their seed until sold in a retail manner to the eastern and western farmers of Canada.—L. H. Hanlan.

HOMESTEAD ENTRIES

During the month of September, 1916, there were 215 homestead entries in Manitoba; 397 in Saskatchewan; 384 in Alberta, and 39 in British Columbia, a total of 1,035, as compared with a total of 1,084 in August, 1916, and 1,285 in September, 1915, according to the *Labor Gazette*.

A study of the nationality table, shows that Canadians from all the provinces assisted in this homestead work. During the three months ending October 1st, there were 419 from Ontario, 158 from Quebec, and 77 from the Maritime Provinces. There were 568 Americans made entry, 455 English, 152 Scotch and 57 Irish; 234 Austro-Hungarians, 168 Russians and 1 German, included in the totals. The total homestead entries for the 3 months were 3,517 as against 4,866 for the same period in 1915.

A SEED GRAIN MARKET

In order to assist in bringing together those who have good seed for sale and those who require seed grain, the Manitoba Field Husbandry Department has organized a Seed Exchange Bureau. Any farmer having a quantity of good seed is invited to send in a one pound sample of the cleaned grain, addressed to "Seed Grain Bureau, Field Husbandry Department, Manitoba Agricultural College, Winnipeg." Purity and germination tests will be made to these samples and filed for reference after being submitted to the owners of the grain. Enquiries for seed grain will be placed in touch with those having seed for sale.

Results of the tests of oats and barley of this year's growth indicate that there is also urgent necesity for testing these seeds also. Farmers are invited to make use of the College seed-testing laboratory.

DIGGING A BIG DITCH

A big ditching plow is used in the middle West and has enabled many farmers to utilize large tracts of land hitherto waste. The ditching plow invented forty years ago in Indiana is still used for smaller ditches. It has a double mold broad and cuts a ditch about 4 feet wide on top, 2 feet deep and 1 foot wide at bottom. It used to be drawn by eighty oxen.

Then they began to use a wooden capstan and manila rope to draw the plow. Then the wooden capstan developed into one of steel and wood and the manila rope into a wire cable. Gradually the plows increased in size and also the capstans, and at last two capstans were used to one plow, four heavy horses turning each capstan. Says Frank C. Perkins, in the *Scientific American*:

"With this outfit the plow will cut a ditch 8 feet wide on top, 18 inches on the bottom, and about 3 feet deep. It is drawn by two ¾-inch steel cables, one to each capstan, both being operated at the same time. It makes a ditch with one cut in land, dry or under water, and places the earth excavated on both sides of the ditch, pushing the earth back so as to leave a clean berm of 3 feet. The two capstans used to draw the plow are self-anchoring, and have 14-inch vertical drums, each holding 1,000 feet of cable. Four heavy horses are used on each capstan, working abreast and pulling at the end of a sweep that it attached to the drum. This sweep is usually about 24 feet long, and the horses describe a circle nearly 50 feet in diameter in order to wind in 3 or 4 feet of cable. The work is so severe that relays of horses are used, and there are usually about 20 horses with each outfit. These horse-driven ditching plows cut about 100 rods of ditch per day. In Wisconsin they frequently cut 50 miles of ditch in one season at a contract price of from $1.25 to $2 per rod of ditch, depending upon the character of the soil."

The latest thing in this line is the capstan operated by gasoline. The gasoline engine is supported by two long "caterpillars," 30 inches wide. It has two anchor sprags 2 x 10 feet to give it a grip on the ground. The drum is 2 feet long and 16 inches in diameter and the cable 1⅜ inches thick. The drum holds about 1,000 feet of cable, and winds it up at the rate of 14 to 18 feet a minute, and the plow that it draws will cut a ditch 8 feet wide on top, 3½ feet deep and 2 feet wide on the bottom, doing it at a single cut and laying the dirt on each side.

"In operation the plow is left at the starting point of the ditch, the cable attached to the beam of the plow. Then the tractor, with its power capstan, moves ahead to some point on the line of the ditch to be cut, paying out the cable as it advances. When this point is reached the traction gear is released and the winding apparatus to the drum is thrown into gear. The anchors are released, allowing the points to drop on the ground. draws the machine backward, causing the anchor flukes to enter the ground until the tractor with its capstan becomes firmly anchored. When all the cable is wound on the drum, or a change in the direction of the ditch is to be made, the winding gear is thrown out of action and the tractor is moved to a new position.

God's Green Country

A Tale of the Ups and Downs of Country Life

By ETHEL M. CHAPMAN

Illustrated by
MARY V. HUNTER

CHAPTER IV.—*Continued.*

"IS ANYTHING wrong?"

"No, I guess not. She just doesn't seem very well sometimes."

Somehow the news filled Billy with foreboding; he could only picture some awful change. He was impatient to get home, yet so suddenly awakened from his dream of other things, he felt like a stranger as they neared the old place. How little and lonely the house looked in the thickening dusk with the lamplight making red squares of the windows—the frost already creeping out from the edges of the panes, and the white smoke floating up from the two little chimneys. There was a fire in the parlor to-night—a sign of festivity for his homecoming.

The horse had scarcely turned in at the lane when the kitchen door opened, and in the light flooding out, Mary stood waiting with the lantern, on duty as usual. She seemed very frail and little as she hurried to meet him, very pathetic too, with her face lifted shyly, not knowing just what to expect, aching to express her love, but fearful of doing the wrong thing. They grow away from their mothers so fast, these men-children; they get so involved in things outside that the mother who stays at home trembles for the time when they will have ceased to need her.

As she bustled around in happy confusion putting the finishing touches to the supper, Billy struggled to adjust himself. The ceiling of the little room seemed very close to his head, the walls very confining as he paced about, but he noticed that the floor was scrubbed white, that the curtains had been laundered until they fairly bristled out into the room. His foot disturbed a rag mat with some yellow birds hooked into it, and when he got down to straighten it, some good fortune prompted him to observe:

"This is something new."

"Well, to think you'd notice that! I was afraid I wasn't going to get it done in time. Do you remember that plaid? It's some of the first kilts you had. The brighter pieces I've worked into a quilt for you when you have a house of your own—if you'd want it."

Billy did some quick imagining, then, as if challenging some argument against the patched quilt.

"Sure I'd want it," he said. "I should think *I would* want it."

All evening he watched to see whether there was any ground for Jean's fears. It never occurred to him that his mother with her tactful simplicity might be watching him too. It was not until after Jean had gone to bed that they came nearer to an understanding. For a few minutes she knitted while he watched her and listened to the clock ticking on towards midnight. Then without looking up she asked:

"Did you have any good times this term?"

She had never inquired about his "good times" before, and he wondered, half pleased, how she knew. He felt a pleasant warmth covering his face as he answered:

"A few, toward the last."

She didn't seem to notice his embarrassment. She suggested casually:

"Let's move up closer to the stove and open the door. It's as good as a fireplace when you want to talk."

He knew she hoped he would tell her more, and he wished he could, but there was nothing to tell. To repeat anything Miss Evison had said—and heaven knows he remembered every word — wouldn't give a right impression of her at all. You had to *see* her to get any idea of what she was like. Besides there was something about her whole airy, pleasure-loving, exotic presence that didn't seem to fit in here. He liked to shut his eyes and picture her as she looked standing under the cluster of rose-shaded lights in the college gymnasium, but when he opened them on the neat, spare, little kitchen with the wood-box behind the stove and the bleary little lamp throwing shadows in the corners, the vision tortured him with the weight of something irreparably wrong. He started from his reverie remembering that the last thing his mother had said was to the effect that the stove with the door open was as good as a fireplace.

"We were going to have a fireplace of our own, weren't we?" he began. "You must be tired waiting for it, but it won't be long now. If I can get through next year——"

He thought he saw the patient lines draw across her face, but she smiled naturally enough.

"It will be fine to be through," she said, "but you mustn't worry about the fireplace yet. And I must tell you, too, because I have to bring myself to it, that you're a man now. I want you to have your house and your fireplace and everything just like you want it; but you mustn't go putting your mother in your plans; it isn't natural. I'd like to see it all, and I'd be so pleased about it—to know you were happy, but young people want their own life. Only there's one thing I like to feel safe about—you'll always look out for Jean? I'm glad I can be sure about that."

And for the first time, watching her as she stared into the fire, her knitting lying forgotten in her lap, Billy saw the change he had been looking for. He came over and knelt beside her in all a boy's helplessness, tears swimming unhidden in his eyes.

"What is it?" he asked. "Jean said you weren't well. What about it?"

He felt her start, but she smiled back as she had done hundreds of times before when things disturbed him.

"It's nothing," she said.

"Did you see the doctor?"

"Yes."

"What did he say?"

She had been trying ever since to forget what the doctor said.

"Oh! He said something about a specialist. They have to say something."

"You—wouldn't mind going to the specialist?"

"No; but we can't think of it now. I don't feel bad at all. You see I have everything so comfortable since you fixed the house."

Billy had the happy faculty of making his decision quickly under pressure.

"But why can't we go to the specialist now?" he persisted quietly. "I'm not going away again 'til you're better. There's the money for the next term, we'll use that. Then I'll be here. I can surely make things a little better in some ways."

"Oh, no," she protested in alarm. "You musn't think of that. I want to see you get through. If it was the money, there's some in the bank, but——"

"You want to keep that for Jean, don't you?"

"I do want her to go on to school. I want her to learn some way of making her living. And if Jean should ever get married——"

"Oh, Jove, we'll not let her get married," he exploded with a determination born of his own limited and bitter observation. "I certainly don't believe in getting married—for girls."

It took more than Billy's inexperienced force of argument to persuade his mother that he would not be happy anywhere but at home for the next few months—that the farm was suffering for his attention anyway. When she did agree to his plan it was because she found that in some things he was absolutely immovable. He could be steered easily enough to a certain point; after that all the winds of heaven couldn't influence his course. Even the disturbing visitations of the vision of the satin-shod idol, never once suggested the idea that he might go back.

CHAPTER V.

"That a girl may make five dollars a day in a canning club during the summer, or a boy win a prize of one hundred dollars for feeding a baby beef, is one of the lesser advantages of the great national movement which has caught the imaginative enthusiasm of the Young Generation. It is really leading the way to a finer community life. Many of us remember the old-fashioned chicken suppers in the basement of the church, where the boys sat on the benches by themselves, while the girls looked pityingly and shyly across the intervening space. The club boys and girls in this great industrial college, allied artists in the creation of a better country life are changing all this. Nothing in rural life has ever been the medium of such good times." —*Stanley Johnson.*

Dan heard of the intended visit to the city doctor with astonishment and annoyance. It wasn't like Mary to want such a thing, and he attributed it to some more of Billy's "higher life" ideas. He repeatedly unburdened his bitterness to Mary in Billy's absence, that he had been fool enough to let him go to school just to come home with his superior ways. To outsiders he had a habit of remarking: "My boy, he's in college now. Costs a good deal, an education nowadays, but I want him to have the best I can give him."

Regarding the consulting of a special doctor he openly disapproved, on the grounds that all a doctor hung out his sign for was to get people's money. He had never had a doctor in his life and he

never would have one. The best rule he knew for health was to "forget it." Then Billy came in and he stopped. When Mary came home at night and took up the threads of her work where she had dropped them in the morning, however, he rested more easily. He inquired, apparently amused at the whole affair, when she was going back again, and she said she didn't have to go back. He reflected then, that it was only a "notion," as he had supposed, and was satisfied.

It was different with Billy. A dozen times a day he came into the house and waited around awkwardly, without asking any questions, but the most his mother ever said about the subject that troubled him was that it was "about time to take the tonic," as though the completeness of her heart's desire was assured through that proceeding. Billy had never known her to appear so happy and he knew in his heart that while she had opposed so seriously his staying at home, she felt a support in his presence. A strange dread haunted him that the time might come when she would need him still more. His first important step in the farming operations was to provoke his father's wrath by the extravagance of adding a bathroom to the house. It was a very simple affair, built on a level with the ground floor, with a hand-force pump and cement storage tank, but it gave a satisfying touch of comfort and refinement.

Early in the New Year Billy received a scribbled note from the District Representative. "Can you help us with our Short Course? We have about thirty enrolled for the boys' class, pretty good fellows practically, but most of them, I dare say, could have had all the schooling they ever got crowded into two full years. To make matters worse, we're putting on a course for the girls—cooking and the like. A girl taking some post graduate work at the college is coming down. I expect the thing will develop into considerable of a nuisance before we're done with it, but we'll have to see it through."

Billy's sympathies were aroused. He readjusted his plans so he could get five days a week off, went to call on the Representative and found him troubled.

"You see, it wouldn't be so bad," explained that work-driven, detail-harrassed official, "if it were not for this girls' affair. Even if they'd keep to themselves it wouldn't matter so much, but I understand there are to be tobogganings and skating-parties and socials—sort of a sleighride-and-taffy-pull phase of the keep-the-young-people-on-the-farm movement, and I expect it will leave them a hundred per cent. more of the hoyden, or a hundred per cent. more buried in the Slough of Sentimentality than if they'd never been the object of an uplift."

"I expect it will be the best thing that ever happened them," said Billy.. "Were you ever scared of a girl that when you went to a neighbor's in the evening you'd go around to the stable first and wait there till some of the boys came out, and took you into the house, sort of under cover?"

"No," came witheringly from his superior.

"And did you ever find yourself left alone with a girl that you'd known or should have known all your life, a really good-sense, clever girl who must have had lots of ideas of her own, but neither of you could advance any conversation at all because you hadn't the first shade of a common ground or a common interest? There was nothing to do but try to imitate the smart talk of the imported store-clerk, or go, so because you didn't want to make a complete donkey of yourself you generally went?"

"I should say not."

"Or if you were an easy prey to the hoodlum element hanging around almost every country village, you possibly found your recreation in shooting peas from the back seat of the church at tea-meetings, or cutting harness, or stretching wires across the road on dark nights. When you reached the age of more civil instincts the most alluring social interest was to follow the public balls from one end of the country to the other. You met the

He liked to picture her as she looked standing under the rose-shaded lights in the college gymnasium.

same people, or the same class of people, night after night, and you stayed till four o'clock in the morning. Before it was done half the men would be glazed-eyed and unsteady, and the girls looking dragged out, but sort of tolerating it all; and some of them the best girls in the country, too. They must have gone home heart-sick of it, but they always came back; you can't wonder much—there was a lot they didn't know and there wasn't any other excitement in their lives. A minister in the village here ventured the idea of fitting up a gymnasium in the basement of the church and having moving pictures on Wednesday nights, but one old reprobate of an elder opposed it until it was dropped. He considered it profanity in the first degree, and anyway he didn't want his daughter going to picture shows or dressing up in gymnasium rigs, but every time she came down to the post-office the village bartender walked part way home with her. She wouldn't have tolerated him a minute if she could have seen him in comparison with decent men, but her father didn't believe in the "safety in numbers" fact. She ran away with the bar-tender and married him, and all the time there were a dozen honest, well-intentioned fellows native to the farms around, any one of whom she might just as possibly have married, but didn't for the very good reason that she didn't know them. I believe this co-education venture will be the best move yet in the 'rural sociology' scheme."

"Well, then, before your enthusiasm cools, I wish you'd go and take a look at the hall; we have to fix up for a demonstration kitchen."

Billy looked at the hall and reported. The next day he brought his tools, and according to directions improvised a table from some rough lumber, nailed some boxes together for a cupboard, then swept out his shavings and incidentally the dust from a year's meetings of the county council. On the third day he was commissioned to meet the train bringing the teacher.

Billy was not given to questioning orders, but he stopped unloading chairs from a wood-rack to look his chief over with open defiance.

"I'll do anything in reason," he said. "I'll haul the furniture from any part of the county till we get the place equipped. I'll blacken the store or scrub the floor if I have to, but I don't feel at all equal to meeting any post-graduate domestic science girl and escorting her up to the Royal Hotel. I wouldn't be surprised if she'd sit right down on the steps and cry."

"More likely to sit right down and give you five minutes to find a better place or get a taxi to take her home."

"That wouldn't be as bad as the other."

"Only that there isn't any better place."

"Why won't some of the women take her?"

"Some of them claim to have had previous experience with 'lady speakers.' The general trouble, however, is that she comes from the city—is rumored to be something of an aristocrat and the people are afraid of her."

In spite of these scattered feelings of fear and hostility, the teacher had a pretty fair attendance the first day. The second day it seemed as though some one, probably the girls themselves, had done some additional advertising. Toward the close of the afternoon the Representative suggested to Billy that he go up and see if she wanted anything.

The classes were over, but the girls were still there, and sounds unlike the scraping of pans or handling of dishes, or anything else pertaining to domestic science, came from the room. The door was open, and instead of finding the students bending over a yeast culture or copying the food constituents of cereals, he saw twenty or more girls coming down the hall practising the minuet. The teacher was there, with her back to him, demonstrating, of course; the girls themselves had never seen the minuet before—and Billy stood watching, open mouthed, for a full minute, before someone saw him, and the dance broke up in confusion. He came forward to apologize to the teacher and when she turned he remembered; she was the "committee girl."

The class filed out bashfully, and the teacher gave Billy some idea of what she was trying to do. Evidently she thought some explanation was due. The minuet, she explained, was part of some physical culture she was working into the course,

and he heartily approved. He had observed a neighbor's daughter, an awkward girl of sixteen, stiffened and sobered from the care of the family of younger children, actually relaxing and taking the bend with considerable grace. He had noticed the stolid, stoop-shouldered girl from the Home, whose pride, almost her self-respect, had been crushed out of existence, curving her spine and lifting her head in admirable imitation of Miss Macdonald's poise. He didn't wonder at this at all. If ever a school of physical culture turned out a model it must be this girl, with her slim perfect physique, her quiet supple carriage, her entire absence of self-consciousness. Her whole personality radiated a wholesomeness. From her regular white teeth, her hair still shining from the brush and sending out little rusty glints from the brown hollows where the light struck it, to her white linen uniform and classy low-heeled shoes, she carried the mark of the thoroughbred. And feeling the warmth of her kind, happy eyes, hazel or gray or whatever they were, it didn't matter, Billy almost decided that these things were worth more than being pretty. He considered bringing Jean home from school for the two weeks—not for the sake of the course, just for the atmosphere.

In spite of her poise he surmised that she was taking her job pretty seriously.

"The playing part of it," she explained, "will be questioned a good deal, I'm afraid; it isn't outlined in the programme, but I believe it's almost the most important here. Most of the girls can cook pretty well; you can tell by the way they listen to the reasons why you put meat to cook in cold water for soup, and boiling water for a stew; and by the questions they ask about why specialists have decided that it's better to keep a baby's feedings four hours apart instead of two. You can't give them very much in two weeks, but they have so much that is practical to begin on that they can go right ahead and apply almost any principle they learn. When they're through here they should be able to take the best Home Economics literature and study for themselves. We're considering forming a 'Better Homes Club' and linking up with your Junior Farmers. What do you think?"

Billy accepted the idea with encouraging enthusiasm.

"That's why it seems that the social part of it should be started under some direction. Do the boys skate?"

"I'm afraid a lot of them don't. I never thought of such a thing until I left here."

"I'm going to teach some of the girls on the pond on Saturday afternoon. If the boys were interested we could have some skating parties before we finish."

Billy spent some strenuous nights on the ice, getting the boys interested. At the end of the first week, a bonfire of pine roots at the edge of the pond made the illumination for a union skating meet, a laborious exercise for some of the class, but sending everyone home with a happy anticipation for the next time. Before it was over Billy set out with Ruth to follow the creek for a few miles down through its moonlit stretches of frosted barrens. The girl skated as she did everything else, freely and easily with an expression of the joy of living in every stroke. He had never seen such rhythmic, easy, independent motion in girls' athletics, and he wondered how she had acquired it.

"You must have taken to the out-dors soon after you learned to creep," he ventured.

"I imagine I was kept pretty closely under cover at that time. I know when I was seven years old people still thought I wouldn't ever grow up. My mother died when I was a few weeks old and a well-intentioned aunt put me into an exquisite nursery in the attic of her big house, and got an expensive nurse to take care of me, but I just wouldn't thrive. It was a very patient and far-seeing teacher who took me to the fields and taught me to climb trees and spent nearly a whole summer overcoming my fears of the lake. Then suddenly one day I swam away from her; after that I began to live. There must be hundreds of children like that whom no one ever bothers with. Had we better go back?"

"Tired?"

"No, but I think we've come far enough."

She didn't look tired. Of all the glowing, happy, well-poised creatures under the heavens she seemed the most thoroughly alive. Billy admired the quiet control that never sickened a pleasure with satiety, that reverenced a recreation enough to stop when it had recreated. He thought of the jaded girls he had seen dragging through after midnight dances, in rooms reeking with air so poisoned that even the lamps burned blue and flickered, and he hoped she would teach them her creed of guarding her physical womanhood as a sacred trust. He hoped she could inspire a love for the clean out of doors that seemed to leave her tingling with the fires of pure oxygen.

Even the Representative, in spite of his prejudices fell a convert to her social propaganda, and attended with less boredom than he had anticipated, the tobogganings and sleigh-rides and taffy-pulling functions. Instead of finding his young people "one hundred per cent. more of the hoyden," he observed an unwonted dignity. He overheard a few conversations discussing landscape effects for the spring planting, and the practicability of power systems for the farms and homes of the districts. Instead of discovering his teen-age irresponsibles floundering "in the Sloughs of Sentimentality," he found a free and easy mixing of a few older people in every entertainment and none of the clandestine pairing off so general in some of their former affairs. He inquired how the parties and sleigh-rides always came to be chaperoned by some women of the neighborhood and was informed that the girls arranged it. He marvelled that the gatherings always broke up not later than eleven o'clock, and heard from more than one mystified youth that the girls seemed to have some secret understanding; no one knew what had come over them.

On the last day of the course, when Billy returned from taking the boys to see the Aberdeen-Angus herd that had played such an important part in directing his own early interests, he found the Representative unusually worried, and interrupting his enthusiastic report of the day's proceedings with the irrelevant question:

"Have you seen Miss Macdonald today?"

Billy hadn't seen her.

"Well, she's got a ripping cold, and looks like destruction," the Representative grumbled. "I wish she was out of that hotel. She never should have been there in the first place. I'll bet the walls are fairly dripping dampness, and you probably know that when she's at home she lives in a steam-heated, electric-ventilated palace of a place, with a kind of millionaire uncle."

"I didn't know."

"Queer she should care about knocking around at a job like this."

"What are you going to do about it?"

"What would I be likely to do about it? I suppose what she needs is mustard plasters and ginger-tea. What would you suggest that we do?"

Billy stared out the window for a minute.

"I guess I'll see if she'll come home with me and let my mother fix her up," he said.

The Representative contemplated the back of his assistant's head, wisely, for a minute, then decided he was wrong. He had never in his experience with agricultural undergraduates come across so little presumption and so much cool initiative. It made a puzzling combination.

Ruth heard his suggestion with surprised gratitude. "It's just the most ordinary kind of a farm house," he apologized, "but I think it would be more comfortable and a lot safer than staying another night at the hotel."

She wasn't afraid of the farm house, but she hesitated at the imposition; she wasn't accustomed to such consideration. She also realized her danger, and it decided her.

Of the several things in Billy's later career that had heightened his mother's hopes for him, this was the crowning event, and in the whole of her orphaned life, Ruth had never known so well how much she missed in not having a mother of her own. She felt no homesickness for her uncle's luxurious house and her aunt's efficient, methodical ministrations. She liked to lie in the deep feather bed with a flannel-wrapped hot brick at her feet; and she liked to have Billy's mother coming in to see how she was getting on and staying to regret that he hadn't brought her sooner; and she liked the strong, nippy sweetness of her black currant drinks, even the warmth of her mustard plasters—and she *loved* the mother herself.

Somehow Mary knew it, and was happy. She supposed she would have liked any girl Billy had brought home—certainly she would have tried. But such a girl! She had always treasured the hope that sometime there would be just such a one, serious, and wise, and considerate—a girl who would sort of take his mother's place for a man when she had gone.

She confided the hope to Billy while they watched the fire the next night, and Ruth was probably having dinner in her uncle's house with no trace of her cold left other than an inconvenient red square on her chest that interfered with wearing the regulation dinner-gown. He looked up surprised. He stretched his imagination for some time, but he couldn't picture Marjorie Evison in any such capacity at all; neither could he see why any man would want such a thing. He was still pretty young.

(To be continued.)

The Farm Call for Shells: By ELUID KESTER

Steel Shells to Enclose Buildings are the Jack Johnsons of Peace Consolidation

The steel part cost $3,000. But it takes no paint and lasts for generations.

ONE THING that forcibly strikes the prairie farmer upon his return to his early home associations in the East, is the endless variety of barns and sheds on the small farms. Where his Western needs were often roofed under a house, a stable and a granary, here he finds the countryside badly blotched with decaying and decrepit barns. The number of roofs, particularly on the old farmstead of a Dutch settler, startles even his ideas of thrift. While another side to the anomaly opens up when he sees a poor story-and-a-half unpainted farm house "fluttering," as Whittier says, "the signal rays of shiftlessness" from its windows, within a stone's throw of a big steel-clad cement-foundationed modern 120 ft. x 60 ft. barn. And indeed there is some countryside philosophy to be indulged in as one travels across old Ontario, township after township.

"What a fine prospect," broke in my companion in a recent motor trip through Ontario. "We were on the highest point in one of Ontario county's rich townships from where we could look into the six surrounding townships. The view on this October day was magnificent.

"The farmers here must certainly be taking advantage of modern building materials. From here I count not less than ten steel barns and many more steel-roofed wooden barns."

"Now these new barns," I interrupted, "have all been erected during the last five years, for that Jones barn which you see off in this direction, was the first steel barn in the township. Besides you will note several new all-wood structures. So that the idea that steel can be of service to the farm is fast gaining the respect of the farmers."

"The tendency clearly must be for farmers to go into steel as a building material. How do you account for it?"

WHY ARE WE STEELING?

"I reckon, that the labor question has a great deal to do with it. A barn building in the old days was a big summer's work, with a whole battalion of men continually poking around. The getting of the timber out of the bush, the hauling to and from the local sawmill, the framing operations, and the 'raising' were events of a lifetime. Labor was cheaper, and easier to be had, while the fashion of feeding big gangs of men, was in vogue with farm women just as much as the present household efficiency is with the women's institute. Now women simply cannot feed so many men. The farmer cannot spare the time for planning and extras, and so the contract idea of steel barn and cement wall has appealed to him. And he is finding them valuable in other ways."

"Yes," he demurred, "these farmers are pretty conservative and you could not get them to go in for this steel frame barn if there was much doubt about their permanence."

"Oh! I don't know. Farmers are very much like other people. They are an imitative bunch. Why, I know when I put up my barn down in M—— township it was not long till every neighbor began to fix up. Then each tried to do something different from the other fellow."

"You don't mean to tell me, that common sense is thrown to the winds in the rush to beat the next neighbor in looks, do you?"

"Well, sometimes in the newer settlements. For instance, out around Brandon, Manitoba, there are scores of farms where great big palatial houses were built by farmers, doubtless to outdo a prosperous neighbor, and for which there is to-day very little use. In older places, the law of imitation and the desire to outshine are held in more subjection. At any rate, it is a good law if it is fenced by certain speed limits."

"Say we call in and see John K's new barn as we go by. It is not finished but we can see how steel is contributing to the efficiency of modern farming."

John was not at home. His cheerful wife informed us that he had just left for C—— station with a short-horn bull calf that he had sold to go to Dakota. But we were welcome to all the property we could carry away on our optic nerves.

And after all is not that the only true wealth we have anway! The enjoyment we get from sensing things and passing on our impressions to others, constitutes a great deal of our joy of living.

Continued on page 51.

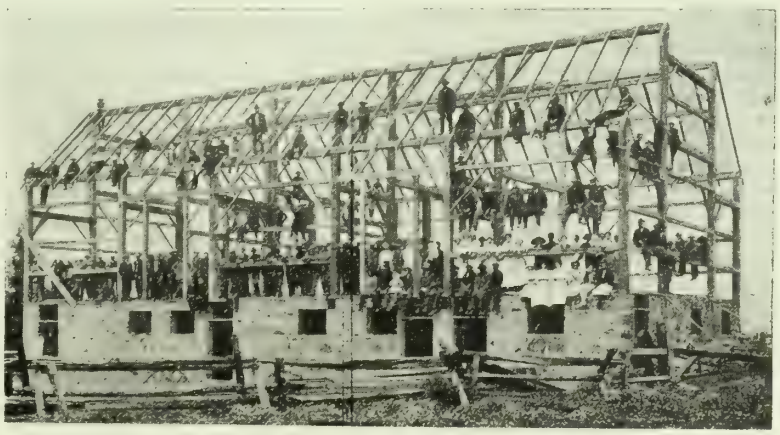
The Usefulness of Steel

One advantage of steel is that the farmer can do so much of the work himself. Steel to fit any angle, to overcome every purpose can be secured.

Steel shingles are almost perfect. They are easy to put on. They last a lifetime. They protect against lightning. They cost very little more than wood that has to be replaced often in ten years. In fact, wood shingles should be relegated to the past in this day of practical things.

At present, steel prices are higher than ordinarily, because of the war conditions, but this temporary rise will not stop the demand. Manufacturers say they will hardly be able to keep up with the orders from farmers as soon as conditions settle. The steel barn and implement shed, with the metal lath, ceilings and sidings, are past experimental stages.

The cost of a steel barn, if materials have to be bought, is less than the wooden one. Certainly under present labor conditions steel is the thing.—E.K.



The immense amount of labor needed for a wood frame is here shown.

FEEDING THE HUNGRY WITH LAST YEAR'S MUFFINS: *By* MAX McDERMOTT

ARE YOU *the same man you were yesterday? If you are, there is something wrong.*

The Apostle Paul, in describing himself, said that half of him decayed and the other half was renewed. All of him that grew old was thrown away and the remainder was all made new. This is the only way to live. The outer man will grow old. It is a blessing to us if it decays.

It is characteristic of all growth that the outside is cast off and the inside renewed. If your mother had made your first clothes of cast iron and buttoned them on to stay, where would you be? Look at the Chinese woman's foot. You must cast aside your baby clothes if you are going to become a man.

The outer man is of value only as an expression of the inner man. Unless we are careful the man disappears and there is only a manner (man ner) left. Someone has said: "Manners are the external deposit left by a dead heart that was once warm," and a little girl described a gentleman as "a man you don't know very well."

Unless the outward man decays, the inward man is stifled. The soul cannot stand being clad in the garments of propriety and the mask of conventionality. It would be a good thing to have all the varnish scraped off us periodically to see if there is anything at all left underneath.

It is easy to develop the outer man so that he will run as a sort of automaton. Most business men become mechanical toys, and most professional men become dignified; they are only wooden men. It would do many a clergyman, doctor, or lawyer good to rip his long-tail coat up the back and strip off all his professional mannerisms.

As a small boy I used to wonder whether a certain old minister at home, who was an old man, wore a shirt like my father's. In the twenty-odd years I lived in the town in which I was born, I never once saw him in his shirt sleeves. I've often looked at an Archbishop, whom I did not know personally, with his tight bishop's breeches and spats, and wondered what sort of mortal he was; but after we had sat in the same railway seat for one hundred miles and chatted together, I found him to be a man like other men. A Roman Catholic priest worked for a year or so on the same mission field as I. I had him often as guest, and one night he stayed in my shack. He wore my nightgown and we slept in the same bed. If there was one thing that impressed me more than another, it was the fact that Father B—— was a man like myself.

Let the other man decay; strip off the professional mannerisms, and let us see what we have underneath.

It is really a choice in life whether a woman will be a dressmaker's dummy or a living soul; whether a man will be a machine or a son of God. We become so proud of the outer man that we don't notice the absence of the inner man. We acquire the art of talking so well that no one notices that nothing is said.

Let the outer man decay, then.

But this is not all. The inward man must be renewed every day.

You would find it wearisome if the same copy of your daily paper were handed out to you every day. A man should have in him more that is new and fresh than a newspaper. He should get out a new issue of himself every day. No one can blame our friends of tiring of us if we hand them out the same bits of personal adventure, the same editorials, the same old joke columns, every time we meet. Old friends are not best friends unless they find something new and inspiring in one another. If we want to be true friends we must be renewed every day.

Your house will not be popular if you set before your guests the same old roast that should have been buried decently long ago. We musn't let our lives get stale. It is disgusting to our friends to find us harping on the same old hobbies, touching on the same old grievances, full of the same hackneyed expressions of affection, with the same narrow point of view, the same faults, and worries, the same dreary struggle, no new hopes or visions, not even a new difficulty or a new sin. God saves us from being a stale friend to anyone.

Yet it's no wonder if we are. Our minds lie in ruts like stagnant mud-puddles. We hate to have our minds stirred up, to really grapple with life. We let them stagnate in the same old ruts until they become so covered with scum that our only hope of salvation is to get up and shake ourselves periodically. There is enough concentrated power in an acorn to push up a giant shaft a hundred feet into the air and crown it with green. And there is enough divine energy in these little melancholy souls of ours to lift us up into Heaven in the grandeur and strength of a perfect manhood.

There was an old, dirty, stagnant lake that had lain motionless among the mountains of New Zealand a thousand years. By chance a volcano broke loose in the bottom of it and blew that muddy stagnant pond into a fancy rainbow geyser a mile high. There was something new in New Zealand that day.

Every man has in him tons and tons of divine dynamite. Let it catch the spark of inspiration and transform us into something altogether new.

Let us renew our minds. Throw out some of the old trash and get something that is real and living.

Let us renew our hearts. Throw out old emotions we have preserved to exhibit to our friends; the bottled tears of blighted affections, the misunderstood friendships that we have laid away in scented sentiment, throw them all out, and let the great, pure, strong love of God and our fellowmen fill our hearts.

Let us throw out past achievements that we love to roll like cherished morsels upon our tongues. Forget what we have done in what we will do. The man who tells of what he has done is not likely to do any more. If we've won a prize or two, forget it. That is behind; let us face to the front.

Let us throw out the grievances of the past. There are memories of the past which it is well enough to preserve, but we must not pickle them. We must cast out every bitter and sour thing when we renew our inward man. Start in each day with fresh and kindly thoughts to all the world and even our enemies will be our friends.

How apt we are to forget the smattering of Greek or Latin or French we got at High School. Unless we keep constantly renewing it it decays and passes from us.

There is nothing that so much needs renewing as spiritual life. Some people have an idea that if a man has been regenerated once, that is enough. Paul had his inner man renewed every day.

There is nothing that grows stale quicker than religious life. If you hear a man speak of religious experience he had on joining the church, or last month, or last year, you know that that man's spiritual life is decrepit. He should have some new experience, some new joy, some new light, fresh to-day.

Some one has said: "We should not attempt to feed the hungry with last year's muffins, nor try to comfort the distressed with joy in the Lord a year old." That would be cold comfort.

If we have no vital religious experience to-day, something is wrong with us. If we have no joy in some good thing we have had a chance to do; no warming of the heart with the sense of God's love; no burst of longing for that which is highest and best, then we have an aged, rheumatic, hobbling soul. We need a new birth.

We must have a new message every day; a new song of joy for the world.

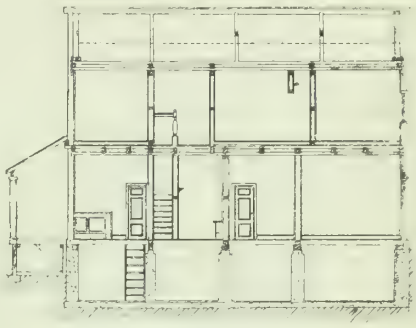
Continued on page 57.

Plans for Farm House Building

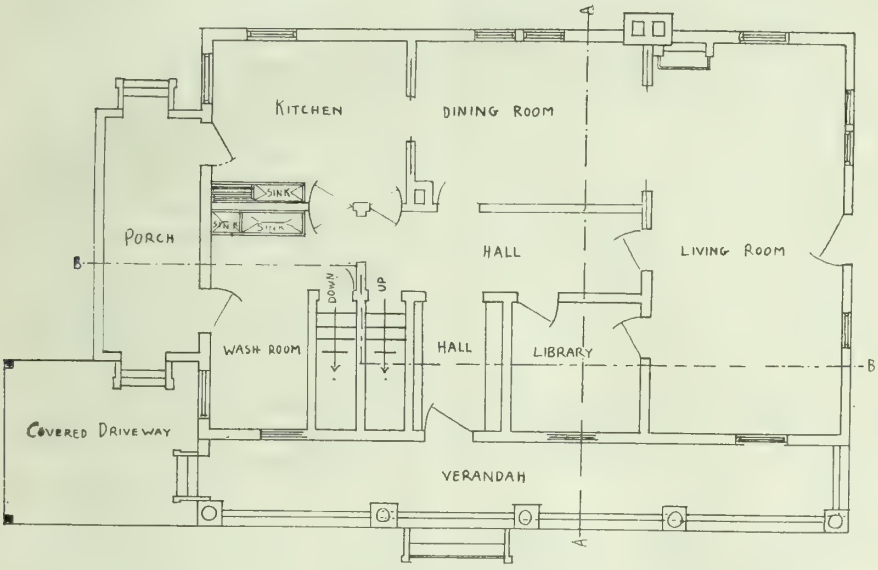
The Architect's Drawings For the House which Appeared in our June Number

Simplicity and beauty combined in this country home.

Front elevation.

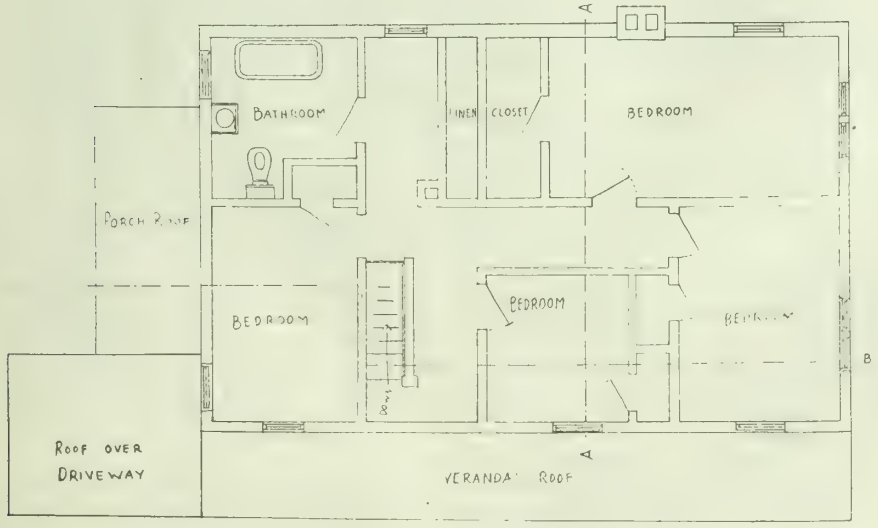


Section BB.

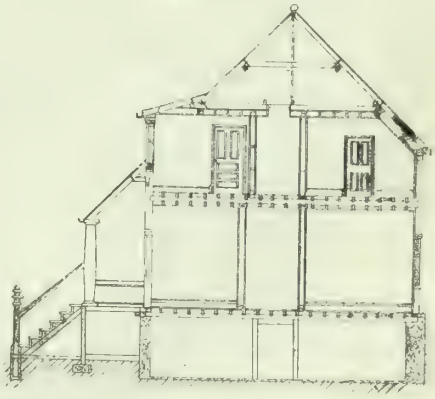


Ground floor plan.

End elevation.



First floor plan.



Section AA.

Since the house shown here appeared in the June issue of FARMER'S MAGAZINE, a number of requests have come in for the working drawings and specifications. We are now ready to offer these to our readers for five dollars a set. They have been prepared by a practical Canadian architect and builder and are complete in every detail, including the materials required for plumbing, heating, electric lighting and painting. Address your inquiries to the Editor.

Quiet But Binding

A Romance Growing Out of a Back-to-the-Ranch Episode

By H. M. TANDY

I SEE it all now. This disappearance of my job synchronized so exactly with the commencement of the war that it created even in my circle of intimate friends, scarcely a ripple of excitement. Attention was diverted from my personal misfortunes; the greater absorbed the lesser as it were.

Everyone, of course, remembers the August that the war started — how the very air seemed charged with impending strife and disaster. Crowds, goggle-eyed and gaping, formed semi-circles about each bulletin board whereon were misspelled all the proper names of Europe. Canadian geographical intelligence has broadened since those early days, but then, confronted with despatch after despatch from obscure and unpronounceable European states, it was knocked stunned and speechless. So, as mentioned, it is plain to me now that in the face of such public pre-occupation and amazement my bid for sympathy was the ballyhooing of a side show foredoomed to failure.

The Germans beat the barrier a little, you will remember, so before the Frenchies got their flood gates shut they found an ocean of fighting men lapping the walls of Paris. When the Frenchies did rally—their punches stiffened to an extent by the presence of T. Atkins and friends—the Germans stood not upon the order of their going. Remember? But men fell like autumn leaves in those days; and, although no mention of the fact was made in despatches, my job was among the missing.

The job I lost was fair and soft — a "white collar" job the boys out here would call it; and it led up a financial blind alley. My daylight hours were divided — fifty fifty—between work and play. I had a place in the morning work parade between the bargain-huntresses and the banker-brokers. 10 a.m. fastened the fetters of business lightly to my wrists where they remained till 3 p.m. released me. I was a daylight patron of the drama and the dance. Like a man tracking another through the snow I followed in the footsteps of those who invented the new dances. My footwork was perfect and, taking things by and large, I was in the pink of dancing condition. At one or two of the more select movie houses I was a serial first afternooner—a relentless and voluble critic of the Pickfordian and Chaplinesque histrionics.

IT didn't take what we call a "killing frost" to wither my job. The shadow of a hint of a likelihood of hard times did for it. A certain lawyer there was, and he had one thousand dollars per year to spend on financial adornment. I was that doo-da known as "my financial secretary." In reality, as I have endeavored to show, I was a war time extravagance and as such entitled to be canned.

A single man, living in a single room, can spread a thousand dollars out as thin as a butterfly's wing—aye, and thinner than that does he command a modicum of credit to salve the too-thin spots. Accept this for the truth, please, because I did it. I went out surprisingiy much and got plenty for my money I took Edith (you may as well know now that Edith is the girl in the case) to tea frequently, to football and hockey matches now and then, and, egad! upon occasions to the opera. Notwithstanding this my annual debt balance was not large. I spent hardly more than one hundred and fifteen cents in the dollar.

In justice to Edith's father I should admit that he contributed most generously to our entertainment. He was a two-limousine man and, while his fixed expenses must have been large, his interests ran more to the collection of money than the distribution thereof. This department of household economy he left largely in the hands of his family. Edith, for instance, was a dispensary in herself, and I was not neglectful of my opportunities. Often and often after a concert to which he would contribute the tickets and the use of the car, Edith and I would avail ourselves of his hospitality for supper. Not always an elaborate affair—perhaps only cold game, tomatoes, hot house fruit, a pint of still wine for me and imported ginger ale for Edith. The entire affair, including opera tickets and cigars, would total hardly more than ten dollars. Against this, of course, was my contribution—my time, a fresh dress shirt and all those costly and numerous details. My motto was, "a good time for Edith, let the chips fall where they may."

WE were good friends, Edith and I. Such excellent friends, in fact, that one fine day we found ourselves in a strange and bewildering garden where the air was heavy with the scent of orange blossoms, and where grinning cupids played around with rice and old shoes for luck—but anyway——.

Blushingly I admit to being rather decent company for a girl. Did I not have a foot for the dance? Could I not toss a merry quip with any man? And who, upon being dressed to the part, looked more like a clothing advertisement than I? So, daughter of a financial baron though Edith was, I was her proud equal in all save money. In this sordid detail I rated a strata or so below her father's chauffeur. In a cautious, prosperous week I would assay six or seven dollars if caught early (say Tuesday) and shaken by the heels.

The world was dance-mad in those days, and probably is still in certain localities for aught I know. Afternoons and evenings it was a giddy whirlygig of one step, tango and hesitation to piano, orchestra or gramophone. Failing any or all of these the hummed staccato running "tra-la, tra-la, la, la, la," served to try out a new step. The Mackenzies had wisely scrapped their billiard table to get a decent dancing space and the good news quickly spread. On a certain evening a self-invited but always welcome crowd was there—and dancing, of course. After twelve o'clock at short intervals one or other of the girls, assuming a look and tone of penitence, would announce, "Oh, I simply must be going," or variations of that idea. But a fresh record would start every foot to paddling again until, like a whirlwind gathering up leaves, every one had once more succumbed to the fascinating vortex. Consequently it was three o'clock when I finally helped Edith into the car for home.

WHY on this particular night I kissed Edith I do not know, except that there had to be a first time I suppose, and this happened to be it. I had never thought seriously of asking her to marry me. As a matter of fact I didn't. Subconscientiously, in a world far removed from such mundane things as rent and clothes and food that cost money, I intended to marry her. Edith, because of the flourishing state of her father's business, knew no other kind of a world. Her matrimonial reflections did not include the pecuniary.

Edith sat beside me in the car, a slight, tired, brown-crested wren of a girl, honest-eyed and lovely as the picture of a saint. For a while neither of us spoke so the only sound was the hum of the tires on the pavement. In some mysterious and unaccountable way my arm got about her waist. Then we must have struck a curve or something for her head slid to my shoulder and, for fear of frightening it away, I sat like a man carved in stone. But when I saw her face turn up to mine and caught the light that was in her eyes I took a chance that wasn't a chance and kissed her.

That was how I proposed to Edith. This style of proposal is rather general nowadays, I understand, in many circles having almost completely superseded the mid-Victorian stately and formal offer of marriage in which the respective families expect to take an oar.

The annals of crime disclose the fact that men steal prodigiously, burn wantonly or insult society by some deplorable crime with no other reason apparently than to keep the world from sinking into a lethargy of too much virtue. My contribution to the tangle of human events was to be that of marrying without the money to support a wife. There are crimes of less magnitude.

THE next day while my head was still among the clouds my employer further facilitated my marriage by with-

drawing my job from circulation. He fired me and gave as his reason the war in Europe. I came within the zone of fire as it were. After asking me to show the stenographer some of the more intricate details of my work he pressed a month's advance salary into my hand and bade me good-bye, prophesying that doubtless and without difficulty I could find another position as good or better than the one of which he so regretfully deprived me.

Possessing at that time a certain rugged optimism, I thought so too. It was roughly speaking two weeks later, weeks spent in fruitless endeavor to run one of those "doubtless and without difficulty jobs" to its lair, that I called Edith on the telephone and asked her to meet me down town that afternoon. As yet she did not know of the misfortune that had overtaken me—us. To-day, I should tell her.

Yes, Edith would meet me down town, glad to, especially as she had some shopping to do after which she suggested, we might have tea somewhere and a dance perhaps. I had an impulse to say: "Sure the grave of my late job would make a jolly spot for a dance," but as I had somewhat lost heart lately for the humorous and flippant, I refrained.

"I want to go to Redman's for a minute," said Edith as she met me at the rendezvous and gave my hand a furtive squeeze of welcome. "I find I have no slippers to match my yellow dress, you know. I'm going to wear it to-night. You like that dress, don't you?" This over her shoulder as we forced our way single file through the crowd.

"You bet I do like it," I answered, which was no less than the truth.

I had been shopping with Edith before when by accident or appointment we had met down town. I had seen her spend money as if she were dealing cards for bridge — everybody in the neighborhood entitled to so many until the pack was gone. But heretofore I had regarded her extravagance as a private matter between herself and her father's bank account—the latter large enough, goodness knows, to take care of itself. But to-day, jobless and with little left of my hundred dollars but the noughts, I stood aloof from the shopping operations of my future wife a cogitating spectator, looking, I imagine, not unlike Rodin's statue of "The Thinker."

"I would like to see some gilt slippers, please," Edith informed the clerk that hurried up to serve her.

The slippers were fetched and after peacocking before the mirror with skirts held clear to catch the front and side effects, she bought them—slippers as cunningly devised as a pair of fuchsia buds and as serviceable as a pair of hard boiled egg shells. Then, because she was not sure—SURE—that she had stockings to match she bought a pair of silk ones, a splendid match it's true, for they in turn looked fully as tough and serviceable as the skin a snake sheds in the spring.

"How much is that? Twenty-five for both? Will you please charge that to me? Thank you." The incident was closed. Presently we were back on the street again.

MY future wife was trotting and chatting at my side. She had just made a purchase. Twenty-five dollars she paid for two gilt slippers and two silk stockings that would certainly get the worst of a two-round mill with Terpsichorea. I felt the imperative need of doing something. This girl must never be allowed aboard my matrimonial skiff if I have to sail the Seven Seas alone forever. I took her home and induced her to break an engagement that she had for that evening and to spend it with me. Then I sought out a telegraph office and sent a message to my uncle which read: "Accept your proposition. Leaving here this week." The die was cast. Once more I had a job. All that remained to do now was to cancel my engagement to Edith, tell her that I could not marry her, and why.

That evening after some preliminaries, I spread my case before her; how I had no money and, so far as I could see, no genius for making it. The best I could ever hope for was puny little trickles of money. She needed oceans. I told her how people would point long skinny fingers at us if we failed, and how we could hardly fail to fail. I suppose she was as open to logic as any rich girl would be, who was used to getting the things she wanted in exchange for money. Edith happened to want me for a husband. She had solutions to offer, prominent among which was a word to her father who would find me a place in his office. When I refused this way out she uncorked the major feminine weapon, as deadly in its way as any gun the Germans have devised, tears. Somewhat to my own amazement I held the fort even in the face of a rain of shells.

Finally in desperation I reminded her that as yet I had not asked her to marry me, and this, so to speak, brought down the dog-house. "You did so, Fred. You did so. You kissed me." And I never heard her voice come so close to a scream. I might have told her that kissing was one thing and marrying quite another. I might have quoted the Dormouse: "You might as well say you eat what you see is the same thing as you see what you eat." But logic was of no more use to me than to a man in a prize ring. I had the proud distinction of being probably the first thing that Edith wanted that she could not have. "I'll give up everything, Fred. Everything! We'll get along somehow on what you can make. I will! I will!" Then she beat a tattoo on my chest by way of emphasis until I seized her hands and kissed the palms that were crumpled up inside like the petals of a pink rose.

"Listen to me, Edith," I said in a tone so stern and masterful that I was more surprised than even she was. "Perhaps someday we will renew this subject. In the meantime there are two things I will not, or rather cannot, do: One is to ride through life on your father's coat tails: the other is marry you until I can feed, clothe and entertain you on my own money—wait now, wait!" For I could see she was about to break out again. "Tomorrow I am going West. I've got a farm —a going concern belonging at present to an uncle of mine but with any luck, mine in six or seven years. I must go right away because soon spring will be here and spring is the farmer's busy day."

Let us skip the harrowing details of the parting. Most of the standard authors, ancient and modern, have such a situation cleverly worked out and true to life. Our parting was like the best (or worst and dampest) of these. For the sake of brevity imagine the last moments together of Paul and Virginia. That will answer nicely, though to be sure Virginia promised to return while I was going away for keeps.

ALL that I have related happened a year and some months ago since when without the interval of a single day (excepting a period which for the nonce is curtained in mystery) I have been a farmer. During this time I wrote to Edith regularly. First she wrote me a letter. This I ignored. Then she wrote and demanded an answer You should know this — that she wrote first — and second as well, for, when I gave Edith up, I did so for keeps. It was my first and greatest sacrifice because the time I gave up smoking it was only for a year. That habit had been affecting my heart and my purse, the same reasons, when I come to think of it, that caused me to give up Edith. But anyway——.

She started it. She dropped the monkey wrench into the machinery of our circumspect and well-ordered correspondence. It was an epistolary chest-pounder. "You must come back. You must. You must!" I was flattered, of course, as any man must be, but I also felt a certain sense of pique that she did not take my efforts to make an independent living more seriously This letter required an answer, I decided, so I wrote one.

"Now, Edith," I wrote, "it's no use. I am not coming back and you may tell your father that a clear title to his entire business will not bring me back. I'm a farmer henceforth, and so far as I can see, forever. I am acquiring the outlines of a farmer. My hands grow large. and leathery-tough. I wear overalls with pockets that open from the top. They bulge and bag unheeded and a red bandanna hangs down behind. This in itself is anathema, is it not? Already in appearance I am the Perfect Rube. In bucolic knowledge and understanding I grow, slowly 'tis true but still I grow. While employed as 'financial secretary' I was aware that farmers existed. I was prepared to admit their undoubted usefulness in supplying the cities with such items of food and clothing as beef, wool, bread and flax. But what I did not know is that Animate and Inanimate Nature are a span of plunging Centaurs that require a heap of knowledge and skill and patience to drive. But there's hope for me. I began at the beginning. I learned that the two sides of a horse are not the in and the out sides, but the near and the far, and that their true age comes not from the mouth of their owner, but from their own.

'But seriously, Edith, farming is so intensely interesting to me that I have no fleeting thoughts of ever quitting it, no desire to pass even half the year in vitiating climes and surroundings. Maybe I'm

a farmer by nature just as other men are painters, plumbers or musicians. 'We are what we are,' as someone sometime most cleverly observed. I'm keen on my job in the morning now and at night I hate to quit, the same sentiments, reversed, that I had for my old job. At last I have that 'doubtless and without difficulty' job run to earth, and peace or war no man can fire me for I have a ring in its nose!

"When the sun peeks into my room in the morning he gets a peek right back and, before he is totally up himself, I am slicking up for the day at my little tin basin and my towel of woven rope. These days are so chuck full of real, live physical and mental work that with the aid of a lantern I often steal a few hours from the night.

"Sometimes I'm lonesome of course—on Sundays and in the evenings mostly. I suppose a farmer—more than a city man even—should be married. Perhaps some day I shall be. When there is a concert or dance in town I sometimes ride in. The girls out here don't crowd right up on the heels of fashion exactly. Approximate styles in dress and speech pass. There's one girl in town though that I shall keep an eye on. A strong point with her is grammar. When others to the right and left of her 'seen' she simply 'saw,' and such idioms as 'has went' and 'caming' do not appear to have a place in her bright young lexicon. She has wonderful hair. It would weigh 60 pounds to the bushel I think, and I tell her funny stories to make her laugh so that I can see the flash of her teeth. She holds herself splendidly high-headed like a pure bred, and when I took her off into a corner at a dance the other night to show her the hesitation she caught on so quickly that I accused her of taking lessons when she knew how to swim; but she denied it.

"I'd get a nice little horse for my wife —if I had one. I know a little bay mare about twelve hands high and as quick on her feet as a lizard and broke to drive or ride. Queenie is her name and it suits her.

"Anyone within ten miles is a neighbor out here. Heaven be praised, I have some good ones, and let me tell you young lady that, if you want to know what the word 'neighbor' means, move to the country. There are the Cave-Greene-Caves for instance. Don't let the name prejudice you for he's top hole if you understand me: And she is no less. We visit back and forth 'right frequent.' One day not long ago I rode over and found him feeding his pigs. He came over to where I was tying my horse 'The whole bally thing is preposterous,' he announced and, when I inquired to know the answer, he continued: 'Why my doing all this sort of thing. I'm a Somebody at home, a member of clubs and committees and boards, and my family is an ancient and revered institution. I tell you my boy it's a far cry from Piccadilly to carrying slop to pigs.' If you could have seen and heard him, Edith, you would have died with laughter as I nearly did. 'Well,' says I, 'why not quit and go back to all this ancient and modern grandeur?'

"'I tried that,' he said, pensively, as if trying to guess a riddle, 'but blest if I didn't commence worrying as soon as I landed about the stupid pigs and calves and whether Top-Off, my riding more, was getting sufficient exercise, and all that sort of rot. I came back first boat but one—silly ass that I am.'

"That's it, Edith, you see. He's a farmer by instinct like me. He has spun a web and now he is caught in it. Of course he has a wife who plays the piano and sings rather well and bosses their China boy around. She rides to town with him and together they figure out of an evening how many oats they should get off the summer fallow and whether they should take six cents for their fat steers or hold them over the winter. It makes a difference of course—having a wife does."

THAT was the kind of letters I used to write to Edith. Odds and ends of border gossip and funny things the neighbors did and said. When the crops went in she knew it. I gave her the life history of all my animals from the sour-faced old Shorthorns to Minnie who moved into my barn one night from a past shrouded in mystery and peopled the mangers and feed boxes with feline babies. Time surely took wings when I wrote to Edith.

One fine day a neighbor riding past threw my parcel of mail on the verandah where I found it when I came in from the fields that evening. It consisted of papers and magazines, and one letter — from Edith. She was glad, so I read, that I liked farming but she preferred the city, the habitat of steam heat, running water and the movies. She had been at some dances, some swell new plays and her father had given her an electric coupé, "a perfect duck and as easy to run." Arnold Livingstone had been up to see her quite a lot recently (note: Livingstone is one of the younger generation of metropolitan bandits to whom heiresses are fair game). She didn't think — she really didn't—that the girl with the figure and the teeth and the 60-pound-hair could be nice—"No girl who would pretend she could not dance when she could, could be nice." (Note 2: I asked the schoolmaster if that sentence could be analyzed. He said it could and that he would do it. I haven't heard from him.) Did I realize, Edith asked, that this was nothing but deception? She knew girls, especially those western girls (note 3: To my certain knowledge, Edith had never been west of St. Thomas in her life) who were apt to pursue a man. And marriage was such a serious, permanent step.

This letter I considered highly satisfactory. Edith had seen my decoys anyway. "Perhaps a little later she will swim up close enough to give me a pot-shot," I thought as I put the letter away and started my chores.

AND she did. Three days later I got another letter. It started like this: "Why don't you answer my letter? For all I know you are throwing yourself away on an adventuress. You talk of buying a horse for her before you have known her a week. I think it's disgraceful. Figure and teeth and hair don't make a wife. Who are her people"

Well, here was my duck right off the end of my gun, and now I was too nervous to shoot. It is no small responsibility to pluck a girl from the lap of luxury and set her down as a prairie bride. I decided to take the problem out to the fields with me that afternoon.

I was working my four heaviest horses on the binder that day but the straw was so long and heavy that I had to blow them often. Round and round the field we went reeling up a ribbon of heavy-headed grain. If I don't marry her," I reasoned, "who will? (Git up, Doll) Livingstone maybe and he's a (Doc, you lazy hound!) piker. She's be best off (Fan, I'll tan your lazy hide) with me here—happier, healthier (Come on, Doc, shake a leg), busier. I'll—(Whoa! stand there till I come back)."

We had come to the point nearest the house. I went in and 'phoned this now famous telegram to town for Edith: "Do nothing till you hear from me."

"Edith, old girl," I wrote that evening, "brace yourself for the shock, for you are about to receive, so far as I know, your first properly worded offer of marriage. Will you marry me? Or am I the victim of a crazy and impossible idea? Don't answer for a minute! Listen. I can now afford to feed you sufficiently, and clothe and entertain you as befits the wife of a farmer with an untamed mortgage on his hands. Lots of men will offer you much more than this, I know, but I love you so dear that I am going to make at least one honest effort to win you. Did you think I didn't want to come back when you called me? Couldn't you read between the lines that I was fair sick with longing for my old sweetheart? At night I sit before the fire and fancy you are here and my arms are about you and my lips are in your hair. It seems to me that you should know this sorry old shack as well as I do for it is haunted with your voice and your laughter and the very rustle and perfume of you. Isn't that strange company for a rube?

"My crop is practically harvested. Frost nor hail have no terrors for me now. I have wrested from Nature some three thousand bushels of oats and two thousand of wheat besides fifteen acres of barley that I think will go fifty bushels or more to the acre. I have twenty-five head of cattle—cows, yearlings and calves; twelve horses and a wobbly-legged foal. Of pigs I have forty-seven, assorted sizes but all the same color—red. I have 320 acres of rich brown earth that runs over a plough share like brown sugar; a barn, a chicken house, a pig and cattle shed and a house that rises from the prairie with all the architectural beauty of a packing case dropped from the tail of a lorry. When we come to that part of the marriage service running, 'with all my worldly goods I thee endow,' these are the things (not forgetting the mortgage, of course) that will swim before your eyes.

"If grain prices keep up, mortgage interest, machinery notes, taxes will disappear at the scratch of a pen. If they GO UP I shall become a financial hog on ice. If they GO DOWN some of those cattle previously enumerated will perish in the flower of their youth. This farm of mine is no lean and withered thing, Edith.

Continued on page 49.

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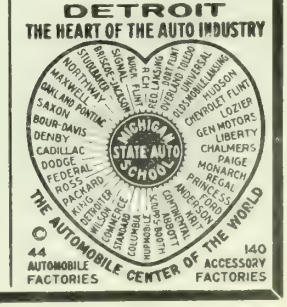

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What Happened to an Old Farm

How a City Man and His Wife Became Healthy, Wealthy and Wise on a Farm.

By EDGAR L. VINCENT

This is the first of a series of articles by Mr. Vincent, who tells a true story of a back-to-the-land movement, that resulted right. Many young men to-day realize that farming is the best business looked at from any angle.—Editor.

I.

THE FARM AS WE FOUND IT.

THE HEAD of the Bureau asked me to take a chair, which I was only too glad to do. I was a bit shaky in the knees about that time. I had come on an important errand, nothing more or less than to file my resignation as a clerk in the Interior Department. It takes some grit to do that, as I found out, when you have been getting a good salary, and pay as sure as the ticking of a clock.

"So you are going to get, are you?" The Commissioner looked at me as if he thought he had discovered a new specimen.

"Yes, sir. Here is my resignation."

"I'm glad of it," he burst out encouragingly. "This is no place for a young man. Here you will be simply a machine. Out there you will be a part of the world. I want to congratulate you!"

My knees began to feel more steady and my voice, I think, was not as shaky as it was a moment ago. I am sure a good many of my fellow clerks envied me when I went to say good-bye to them, telling them that I was going back home to the farm. It was in the spring of the year. We were all sick of the winter and the long confinement in a stuffy office. The big out-of-doors looked so good!

So there we were. Wife and I had a little chap not yet three, with our source of Government supply cut off, looking into the eye of the future; but we were full of courage and sure that we had not made any mistake. The country had given us both birth; the country would take care of us, we believed, if we did our part, and that we were bound to do. Wife had a father and mother then on the farm, while I had a farmer-mother. My father had died in the civil war. I worked my way through school and academy and soon went into a newspaper office, where I worked till I was appointed to a position in Government employ. Wife had in girlhood taken up Normal School work, and became a good teacher, if I do say it, in which capacity she was serving when we were married. The little man came along just a year to a day after we started out together. There you have us as we stood that day with our kit packed for home.

Naturally, our thoughts turned toward the part of the country where we had lived in early life. It took some time to find just the farm we wanted. There were farms enough to be had, but we kept looking until we found a place that came within our means and ability to take care of.

We heard of an old place of about sixty acres that could be bought for a price that would be within our means. We had made up our minds that we would not get in debt at the outset if we could help it. While on a salary we had been economical and put aside at the end of every month a part of what was received. So that after we had cleared up a mortgage of a thousand dollars on the farm, and handed over to the owner fourteen hundred dollars more, we were clear of debt and had, as we believed, enough to buy a horse, a few cows and the needed tools, as well as some to fix up the house and barn with.

They needed fixing up all right. I am sure nothing had been done on the house in many years; and you will be surprised when I tell you how the old man had fixed the floors of his horse stable when they were rotted out under foot. Instead of taking out the decayed planks, he just laid some new ones right on top of the first boards. I took up three such layers of planks when I came to fix up the building. It was an easy way of getting a bad job done, I suppose; and yet I did wonder how he could have been satisfied to let it go so. The farm work had been done the same way. If I had not been of a pretty hopeful disposition, or if I had really known what lay before me, it may be the looks of that land might have proven a little mite discouraging. It had not been overworked, which was in its favor. The old man had not been able to do that, so the soil was really pretty good after you got down to it.

But, oh, the stones there were on that farm! Stones in the meadow, stones on the plowed ground, stones in the pastures; and over those stones the men of the past had been plowing and mowing and harrowing from time immemorial. If they ever picked up any stones, they dumped them into the corner of the fence, where brush grew up through them and bugs and worms had a year-round picnic, making regular forays upon the orchard, as well as the growing crops of grain. Just about in the middle of the best meadow I found a stonepile higher than my head, showing that somebody, sometime had done so much toward ridding the field of these fragments of rock.

The old barn stood not very far from the stone pile some ten rods from the house, with no lane to get to it. The cows had to be driven right through the meadow to get them to the stable for milking. The building never had been battened. I suppose it was held that fresh air, even if it filtered through a crack, was healthful. Lumber must have been cheap when the barn was put up, for there were boards of pine on the siding that were a foot and a half wide. These had now been worn down as thin as clapboards by the action of the storms which had beaten on them so long.

The house was a little low building, with heavy posts, like the barn, and much out of repair. But we thought we could get along with that. The first thing

would be to get the barn into a more habitable condition for the stock. For this was a stock-keeping country and we had our minds made up to do something in the line of dairying before we got through with it. The house could wait. The cows must be comfortable.

(*To be continued.*)

Road Maintenance

The greatest waste of public moneys that is being committed to-day is in surfacing our country roads and then apparently abandoning the same. No county that engages in real road building can afford to dismiss its workmen when the road has been constructed. The fact of the matter is, that the work is just then well underway.

It rarely ever happens that the initial work on the road is done wisely, but there are a multitude of little things that later must be added or repaired in order that the road may be in good condition. Ruts and chuck holes are sure to form and these must be filled or the road soon goes to pieces. These things should be planned for and done quickly if the improved road is to do the fullest service, and this is the one thing that it seems to me some of our country commissioners are neglecting. They become so imbued with the idea of building good roads that they fail to prepare for the maintenance of roads already constructed.—E.B.H.

Teaching One of Man's Biggest Jobs

Mark Hopkins said: "The wise man is he who knows what is worth while and how to get it, what is worth doing and how to do it, what to aim at and how to hit it."

The business of teaching is one of the biggest pieces of work that God ever left man to dabble in. The business of teaching is one of the hardest, claims the greatest responsibility, and means the hardest work of any profession.

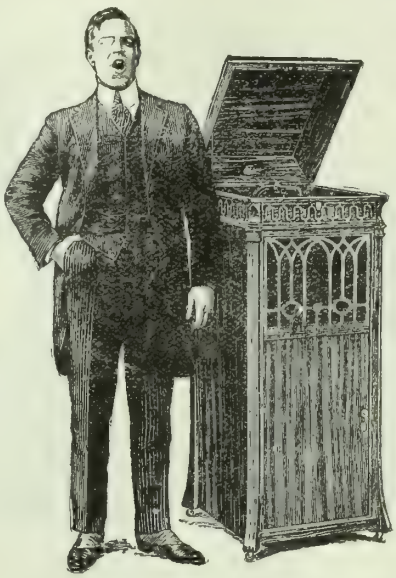
It is a lot easier to be a banker and have the responsibility of dollars and cents than to care for a room full of children, knowing that they are to become the future citizens of our country. And after all, the teacher has the molding of the lives of a large percentage of her pupils, as the home is not holding the important place that it should. There is no profession that demands so much patience, tact, humor, love, honesty, knowledge of right and wrong, as does teaching. It is the greatest profession.—C.A.C.

Cost of Growing Potatoes

Contributors to the *Rural New Yorker* state that the cost of growing potatoes in Maine was $89.35 per acre. This man figured the cost per bushel landed at his station, figured on an average yield for a series of five or ten years of 200 bushels to the acre or 167 bushels of market potatoes, and 33 bushels of seconds.

Another estimate from Maine figures the cost of potatoes at 67½ cents per bushel laid down in New York. Each man used fertilizer at the rate of 1800 pounds to 2000 pounds per acre, at a value of $38 to $47 per ton.

Re-Creation of Music---not merely its Reproduction



Thomas Chalmers, the famous baritone of the Boston National Grand Opera, is not listening to himself. He is singing, note by note, in direct comparison with Edison's marvellous Re-Creation of his voice.

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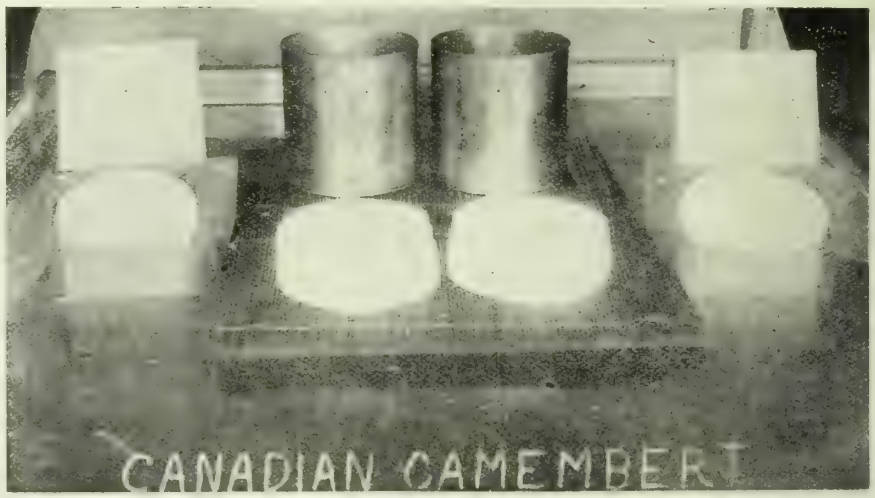

WHEN a person decides to have a picnic or an afternoon tea one important part of the planning is the "eats." Sandwiches are always in demand and something new along the line of sandwiches is often looked for.

Fancy cheese can be used in several different ways, but a popular use for it is as a sandwich filling. When used in this way the addition of a small amount of salad dressing is liked by many.

Fancy cheese can be made from many different kinds of cheese, but perhaps no cheese is more suitable for this work than the Neufchatel cream cheese. As the method of making Neufchatel was described in the first article on soft cheese-making we will now give some recipes using this cheese as a base.

NUT CREAM CHEESE.

This is a cheese that is much liked and a variety of flavors may be obtained by making use of different kinds of nuts such as walnuts, almonds, peanuts, etc.

The nuts should be put through a meat-mincing machine so as to grind them finely.

The amount of nuts to use will depend on the flavor desired. While some people like a mild flavor others like it more pronounced.

One ounce of ground nuts to a pound of Neufchatel cheese would be sufficient for some, while others would like much more added.

Mix the cheese and nuts thoroughly, and if the kitchen equipment includes a spatula or palette knife it will be found useful for this part of the work.

The cheese is now ready to be put up in moulds and the oblong mould 2 in. by 3½ in. and 1¼ in. deep is a good mould to use for any of the fancy cheese.

PIMENTO CREAM CHEESE.

The flavor of the pimento, or Spanish sweet red pepper, has become quite popular of late and is much used as a flavor for different kinds of cheese.

It is necessary to put the pimentoes through the meat grinder in order that they may be chopped finely before adding them to the cheese. Pimento, like any other flavor, may be made mild or strong according to the taste of the people who are going to eat it.

A mild recipe would be one-half of an ounce of pimento to one pound of cheese.

When making cheese for the first time with any flavoring material added, it is well to put in a small amount first and then taste it. If a more pronounced flavor is desired it is easy to add more. Better to do this than to add so large a quantity that it would be disliked by those using it.

Unless we are making a large quantity of cheese we will find that even a small sized tin of pimentoes holds more than will be required. The remainder should be placed in a glass jar until needed.

OLIVE CREAM CHEESES.

Olives also may be used as a cheese flavor. Cut the meat from the stones, then chop the olive meats very finely or put them through the meat grinder. One ounce or more should be added to the pound of cheese. After mixing thoroughly the cheese is ready to pack in moulds.

CARAWAY-POTATO CHEESE.

The above name may seem strange, yet this cheese is liked by those who are fond of the flavor of the caraway seeds.

To one pound of Neufchatel cream cheese add one pound of boiled mashed potatoes. Sprinkle with caraway seeds and mix well.

Put the cheese up in packages like the other kinds already described and keep in a cool place until used.

It may be well to repeat that all soft cheese must be kept in a cool place until used.

It is not necessary to continue giving recipes because any flavor that we are particularly fond of may be made use of.

When the flavor of celery or onion is desired a simple way to get it is by adding celery salt or onion salt to the cheese and mixing well to get it evenly distributed.

In making the fancy cheese it will be found more satisfactory to add the flavoring material at the time of adding the salt and mixing all together. However, if you have the plain cheese on hand it is quite easy to make it over into a fancy cheese and re-mould it.

CLUB CHEESE.

If we were to call this cheese "cream" cheese it would be better known by many people, but as we have called our cheese made from cream by that name we must use another name in order to distinguish them.

Club cheese is a soft cheese made from a hard one by grinding our "Canadian Cheddar" and adding some butter or cream to it. The amounts to add will depend on the dryness of the cheese used and the way in which we wish to use it.

The following recipe can be varied to suit conditions.

Take one pound of well ripened Cheddar cheese, remove the rind, then cut the cheese in pieces and put it through the meat grinder.

Add to the cheese two level tablespoonfuls of butter and put it through the grinder a second time. (Twice through the grinder is usually sufficient to make it smooth, although there may be times that an extra grinding would be an improvement.)

Next add one-quarter of a cup of cream and mix thoroughly. The cheese may be put up in blocks like the cream cheese, or packed in small jars.

When the Cheddar cheese is rather mild in flavor a little mustard or cayenne pepper is sometimes added.

Those who are fond of pimento flavor mix finely ground pimentoes with their Club cheese. This cheese spread on fresh soda crackers makes a bite worth eating.

If anyone has dreams of the old-fashioned sage cheese they might try adding a small amount of rubbed sage to some Club cheese. One-half a tablespoonful to a pound of cheese will suit many, while others might use a little more. This makes a change and adds to the variety of fancy cheese we can make in our homes with very little trouble.

FRESH CAMEMBERT CHEESE.

This cheese is made from whole milk and will require more equipment than the cream cheese.

One mould was sufficient for the cream cheese, for when we filled it we shook the cheese out and it was ready to line and fill again.

With Camembert cheese the curd is ladled into the moulds and allowed to stand for the whey to drain away, thus it is necessary to have as many moulds as the number of cheese you wish to make.

The number need not be large, however, because it is better to make only a few at a time and have them fresh.

Lovers of Camembert cheese, which is a ripened cheese, will note that we are simply giving directions for using this cheese fresh.)

Small sized Camembert moulds are 4 ins. high and 4 ins. in diameter. There are three rows of holes in the mould an inch or more apart, which assist in the drainage.

The amount of milk required for one large-sized cheese (moulds 5 in. by 5 in. diameter) is two quarts, but for the small-sized mould one quart is sufficient.

We will give directions for making two cheese as two moulds are usually placed on each draining board.

Take two quarts of fresh milk and bring it to a temperature of 86° F. Add to it two teaspoonfuls of good flavored sour skim milk or buttermilk.

Dilute ten drops of rennet extract with about two tablespoonfuls of cold water. Keep stirring as you add the rennet to the milk and continue stirring for two or three minutes, then cover. In a few minutes carefully stir over the top of the milk to help prevent the cream rising. Cover again and leave undisturbed until coagulation takes place, which will be in about an hour.

When the curd is firmly coagulated it is ready for ladling into the moulds.

Scald and cool two camembert moulds, a board about 14 in. by 8 in. and a straw mat of about the same size.

Although some have had difficulty in securing straw mats for this work they have substituted other things such as plain Japanese matting.

The straw mats come from England and are made by fastening straws together as shown in the illustration. Many people make the mats they require themselves, using rye or wheat straw.

Place the mat on the board and on this place the cheese moulds.

Ladle a small amount of curd into each mould and repeat about every fifteen minutes until all of the curd has been transferred and the moulds are full. The next thing to do will be to turn the cheese. Place a straw mat and board on top of the mould then raise the under board just enough to get one hand under and immediately place the other hand flat on the top board. Turn the whole thing right over, then remove the mat and board that is now on top.

Allow the cheese to drain until they are firm enough to turn by hand, at that time they will have shrunk to about one-third the depth of the moulds.

Remove the moulds, carefully turn the cheese, replace the moulds and leave for a few more hours. When firm enough to stand alone the moulds may be removed and a few hours later the cheese will be well-drained and firm enough for salting.

About a level teaspoonful of salt will be sufficient for each cheese. The salt is sprinkled on the outside of the cheese and when one side dries the cheese is turned on to a dry board and mat to allow the other side to dry. As soon as the cheese is dry it is ready to use.

If planning to have these cheese for any occasion remember that it is usually the third day when they are finished; for example, if we begin the work on Monday it will likely be Wednesday when the cheese is ready for the table. Of course, we are depending on two things, temperature and acidity, and if we have high acidity and high temperature we will have more rapid drainage. Should we have the opposite conditions however, then the drainage will be retarded. Between sixty and seventy will be found suitable temperatures for our cheese-making room.

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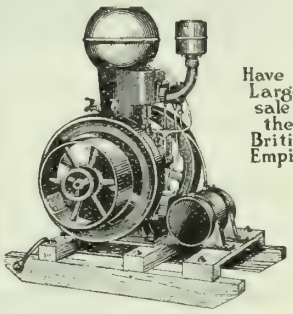

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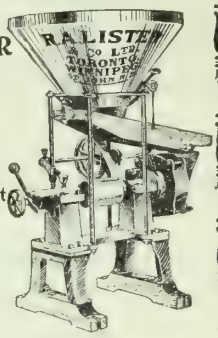

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The Business of Dairying

A JERSEY QUEEN OF WINTER FAIR

A JERSEY cow for the first time won the Dairy Championship at the Ontario Winter Fair held at Guelph. Sunbeam of Edgeley, whose photo appeared in the FARMER'S MAGAZINE for February last, and owned by James Bogg & Sons, of York County. She made 195.3 lbs. of milk, testing 5.4% during the 3 days of the test. Her previous record was over 18,000 lbs. of milk in one year. She was fed on alfalfa, rolled oats, bran and oil cake during the test and is 10 years old.

How breeding tells was instanced on the winnings of her daughter, Princess Flo of Edgeley, who won second with 5 per cent. fat and 174.5 lbs. of milk in the Jersey section.

HIGH PRODUCING COWS PAY BEST

According to the Chemung County Farm Bureau in New York State, the cow which produces the most milk and butter, is the cow which returns the farmer the greatest net returns. In coming to this conclusion, the bureau found out the feed cost of the cows on 115 farms, the production of the farms and the labor income of the farmer.

By labor income is meant the amount of money left after taking away the expenses, the interest on capital at 5% and the labor of the farmer and his family.

Thus it will be noted that the cows returning $125 and over consumed more feed than the others, but they showed a profit of $64 or over 50% above the next nearest. The farmers returns were proportionally bigger also.

This particular section of the State has been noted for their progress in cow testing. In 1914 their average production of 278 cows was 6,889 lbs. of milk and 248 lbs. of butter fat showing an average test of 3.6 per cent.

EXERCISE COWS IN WINTER

It is not the right thing to tie up the cows for the whole winter after they have had the freedom of the pasture for months together. At the same time it is poor policy to leave the animals shivering about the barnyard. A little tramp about the barnyard during the warm hours of the middle of the day is all that is required, and even this exercise should be taken under adequate supervision to prevent injury on the part of the weaker animals.—Andrew Kyle.

IS PASTEURIZED MILK BEST

Decency is an attribute that distinguishes the humans from the lower animals. Cleanliness contributes most to decency and stimulates an appetite for food. Milk may be safe because it is boiled and cause it is filthy. Pasteurized milk is like a man that has washed his face and put on a boiled shirt, and not taken a real bath in his whole life.

FROM 115 FARMS.

Gross receipts per cow.	Feed raised	Feed bought	Total feed	Returns per cow	Gain over cost	Labor income
$50 and less	42	7	49	42	7	269
$51 to $75	47	8	55	63	8	70
$76 to $100	53	15	68	87	19	747
$101 to $125	52	19	71	110	39	1,033
Over $125	53	23	76	140	64	2,200

The Making of "Clotted Cream"

By WILFRID SADLER

IN THIS country it would be quite feasible to prepare the clotted cream on the farm or at the creamery or factory. The method here described is such as will ensure the obtaining of a first-class product, and a delicacy and article of diet of superior marketable quality. While strictly applicable, the system may not in every detail commend itself to all those who would consider embarking upon the manufacture and production of the cream. Let me say that numerous adaptations of the method are not only possible, but with comparative ease may be adopted.

In case the cream is prepared at the creamery or factory the supply of steam which is already of necessity installed would simplify very considerably the initial expense entailed in equipment. In the main, the equipment consists of a long copper or galvanized tank some three to four feet from the floor. This tank, about 3 feet wide and 1 foot deep, is to accommodate water and is fitted with steam connections whereby the water may be heated. The tank is fitted with a cover hollowed in such a way as will admit of pans being supported and at the same time surrounded by the water. These

The cooling room for clotted cream in a large dairy plant.

pans used for the milk are preferably made of aluminum or block tin. They are 20-24 inches in diameter at the top, 12-14 inches diameter at the bottom and are 3 inches deep. It may be more convenient and economize steam if the tank used for the heating is subdivided in such a manner that each pan is in its own container. A cool room is required, fitted with latticed metal shelves; small strainers resembling a culinary strainer, palette knives and perforated metal skimmers complete the essential apparatus. It will be seen that the whole of the equipment is such that a local tinsmith or hardware manufacturer, if competent, can instal without much difficulty; and apart from the room set aside for cooling purposes, the amount of floor space required is not large. Having the necessary equipment, the prime essential, as in all dairy processes, if success is to be insured, is a bacteriologically clean milk. The milk on being received is poured into the pans, using for each pan 6 to 8 quarts. The pans are set aside in the cool room and left for 10-12 hours for the cream to rise. When operations are to begin the steam is turned on and the water in the tank heated to a temperature of about 200° F. The pans of milk are placed in the tank, the greatest care being observed in order that the layer of cream shall not be disturbed. The steam-heating continues, and the contents of the pans reach a temperature of 80-90° F.; this operation usually taking about 20-30 minutes. When the heating or "scalding" is completed, the layer of cream in the pan is crinkled, and appears as a blanket or "head" of cream on the surface of the milk, from ¼ to ½ inch thick. The pans are now removed, placed on the shelves in the cooling room and allowed to remain for 20-24 hours. We now have the "clotted cream." It is lifted with the skimmer and placed in the perforated strainer. This part of the proceeding calls for considerable skill, for excessive stirring and mixing of the cream is liable to destroy the texture—a highly important consideration. The cream is ready for sale at once, and for marketing purposes is packed into small earthenware jars or wood pulp cups similar to those in vogue as receptacles for cream. Clotted cream is sold by the pound, and when produced under good conditions can be perfectly sweet and typical after at least 48 hours in transit, using no preservative whatever. This does not represent the actual length of time during which the cream may be kept. It represents the length of time when at a temperature such as mail and express packets are subject to when carried by rail.

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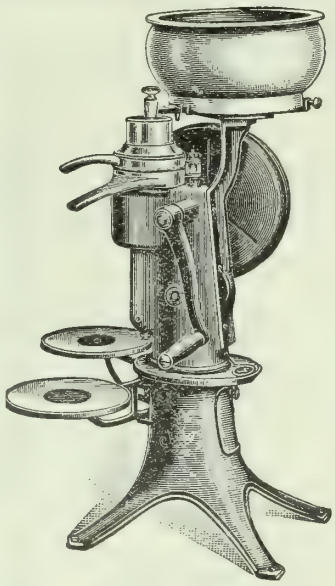

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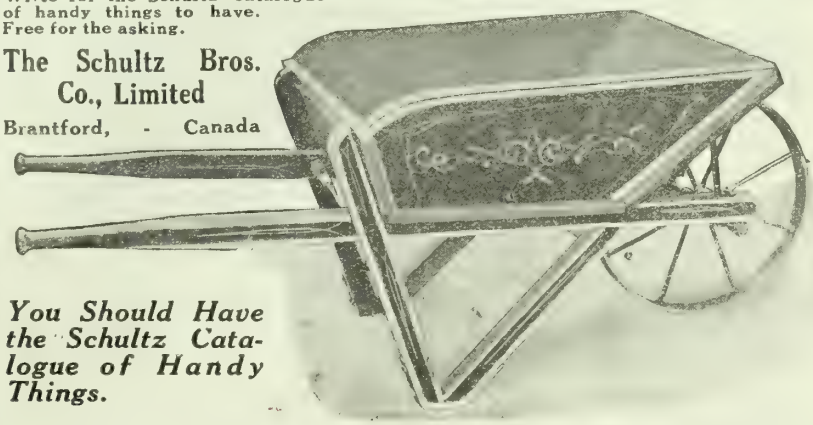

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the price obtained for the whole milk shipped to the city for consumption, we have in addition the scald milk. This, the residual milk after the cream has been lifted, is a product of considerable food value, and may with advantage be used for human consumption. In the districts where clotted cream has been made for hundreds of years, the scald milk when sold for consumption often secures a market price equivalent to one-half to two-thirds of the prevailing price for whole milk. The proportion of butter fat present in such milk frequently approaches 1%, and for cooking purposes this by-product is eminently suitable. Moreover, the process involved in the preparation of the cream serves to pasteurize both the cream and the residual milk and thus ensures the latter being a perfectly safe as well as an excellent food for the rearing of young calves.

Some of the utensils used in the process of making clotted cream — a 3-legged cream drainer; pan in which milk is set and scalded; skimmer, and palette knife.

I have already said that various adaptations of the method described may be followed, such being largely dependent upon local circumstances, prevailing equipment and the quantity of the product it is proposed to place on any particular market. In small quantities clotted cream may be prepared on the farm with a minimum of utensils and with comparatively little trouble. The ordinary copper in which the supply of boiling water is obtained on the farm may be used for the scalding process. Or provided the pan containing the milk and cream is placed in a larger pan containing water, the stove in the farm kitchen may be utilised with success. Given a kitchen stove, a couple of pans, the necessary amount of milk, a palette knife and a household strainer or skimmer, the way is open for any farmer to successfully prepare a small supply of clotted cream.

A Buttermaker's Logic

An Englishman's View of the Butterfat Testing and Problems About Feeding and Farming.

By JOHN BENSON

THE present high price of artificial feeding stuffs has increased the comparative value of separated milk as a food for calves and pigs, and the great rise in the price of milch cows has given a stimulus to the rearing of dairy stock by farmers. Everything tends to make the by-products of butter-making —separated and butter-milk—more valuable and with the increase in the market prices of good butter the prospects were never more favorable.

In making calculations as to profit the milk producer should always take into consideration that with butter-making very little of the manurial value of the foodstuffs produced on the farm are removed, whereas with milk-selling and cheese-making the loss is considerable. Besides it is next to impossible for the milk-selling or cheese-making farmer to rear calves succesfully. In other directions the butter-maker has a great advantage over the man who sells milk to towns for direct consumption, but who is always faced with the possibility of prosecution for selling milk under standard, though the fault may be none of his, but entirely due to the naturally poor milk produced by the cow. When the farmer cannot realize more than 6d. per Imperial gallon net by the sale of milk in summer or 8d. in winter then the possibilities are that under proper conditions it will pay him better to have the milk manufactured into butter provided he is relieved from the necessity of its manufacture in his own dairy.

MILK TESTING.

The question of how profitably to make butter requires to be considered in a wide sense. Usually advice is given by instructors in dairying in the ripening of cream and the actual manufacture of butter, but to be entirely successful the dairy farmer must needs take a wider view of the whole subject.

To ascertain which cows are giving milk rich in fat which it is advisable for the farmer to keep and breed from, is with the aid of a milk tester a comparatively simple matter, but nevertheless most important. Some cows pay for their keep and leave a good profit besides; others will not pay for the food they consume and are consequently a dead loss to the butter-making farmer. It does not follow that because a cow gives a large quantity of milk that it will naturally be poor. The contrary is often the case. This is conclusively proved by reference to almost any year's record of the milking trials at the London Dairy Show.

Taking an example from the records at random we have in one year a cow which for the day gave 3½ gallons of milk which contained only 2.5 per cent. of butter fat while another cow gave 5½ gallons of milk in one day and this contained 3.5 per cent. of fat. The milk of the first cow produced less than 1 lb. of butter in the day, while from the second cow we have a yield of quite 2 lbs. of butter for the same period. These are not isolated examples, they occur in almost any herd. The indifference that so many farmers manifest as to the quality of the milk yielded by their cows is a most puzzling thing and incomprehensible to those thoroughly acquainted with this subject. *No amount of care and attention in the treatment of the milk or in the manufacture of butter will make the business profitable if a number of the cows in a herd do not produce enough butter fat to pay for the food consumed.* The dairy farmer markets the produce of his farm through his cows and if he keeps poor cows then evidently it is impossible for him to make a profit especially when he is concerned in making butter.

FEEDING THE COWS.

In the matter of feeding cows also many British farmers are at fault. It seems to be a general idea that if cows are heavily fed they will produce rich milk while in fact the contrary is often the case. In many instances cows are overfed. They do not produce enough butter to pay for the extra food given.

By heavy feeding of cattle it is possible to increase the average quantity of milk given by each individual but usually at the expense of quality. It is incumbent on the farmer to ascertain to what extent he may profitably feed artificial foods to his cows. Often he will find that he is losing by the extensive use of these foods.

Nothing produces such good butter as the ordinary crops of the farm such as hay, oat straw, and roots and a sufficiency of good pasture during the summer months. To make butter-making profitable the farmer must have regard to the conditions under which milk is produced. If he does not provide healthy cow-sheds with plenty of pure water and good food, if he feeds unsuitable rations, if he does not care for his milk and cream in a sanitary manner then the chances are that the business will be unprofitable. The aim of the farmer should be to produce a large quantity of rich milk at a medium cost and this he can do by careful selection and attention to food, housing, water supply and cleanliness. This done the rest is comparatively easy. Should he decide to make butter at home it will be necessary for him to pay particular attention to the cleanliness of the dairy and to the proper separation of the cream from the milk. The old system of setting milk in pans for the cream to rise should be discarded. It is a wasteful and unsatisfactory system and the cause of much loss of butter fat and prolific in the production of bad flavors in butter. Hand separators are now cheap and efficient and if properly handled will recover nearly all the fat from the milk. To make good butter the milk should be separated at a temperature of not less than 90 deg. F., and such cream should contain not more than 28 per cent. of butter fat. A thin cream ripens better than one rich in fat. It is

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more easily churned and the butter possesses a better flavor.

THE RIPENING OF CREAM.

To get the best results cream should be ripened with a proper "starter," which is a preparation containing the lactic or souring ferments of milk and is responsible for the production of correct flavor in butter. The proper ripening of the cream is all important during the winter months. Most butter made in farm dairies in the winter time is faulty in flavor. These faults in flavor can usually be traced to the keeping and ripening of cream at too low a temperature. At low temperatures the proper ripening ferments do not flourish but are overcome by a new type of ferment which is the cause of nearly all the bad flavors usually attributed to the food the cows are receiving. An attractive, neat and clean butter package that will be ornamental to a dairy or provision shop will increase the value of butter.

I cannot, however, recommend the system of making butter on the farm. Insistence on this method of production is undoubtedly the cause of the decline in butter-making in Great Britain and our farmers will fail to make progress till they discard this system in favor of co-operation in production and distribution. At present it is impossible to purchase direct from the farmer butter that will satisfy the requirements of our best customers, consequently the distributor has to look to Ireland, New Zealand or Denmark for what he requires. Certainly there are butter factories in Great Britain, but these are usually engaged in blending butter received from the farmers, or in working up butter of foreign origin. This system, however, cannot be recommended. It is wasteful and against the best interests of the farmer. The cost of manufacture has to be paid for twice over and even then the produce of such a factory though uniform in texture and appearance is of inferior quality and does not command the price obtainable for butter made direct from milk such as is produced in a co-operative factory.

DANISH METHODS.

What is there to prevent our farmers following the lead of the Danish and Irish farmers? Till we adopt this system, butter-making in Great Britain can never be a profitable business. The fact that the British market is supplied with butter from Denmark is sufficient reason for the investigation of those methods by which their butter is made. It is a well known law of commercial activity that the seller or producer must cater for the wants of the buyer or consumer if he desires to establish trade relations. Therefore, in our endeavors to extend trade and compete with the products of other countries we must manufacture a product that will meet the demands of the consuming market.

The system of co-operative butter-making is simple and adapted to the needs of the British dairy farmer. Instead of making the butter at home, the farmer sends the raw material—milk or cream—to a central dairy convenient of access to the farms in the district. This dairy is fitted with pasteurizing, separating and butter-making machinery of the best description, and the butter is made up by an expert who is solely responsible for the quality of the produce.

The creamery buildings are the property of the share-holding farmers and the farmer is paid for his milk on a basis of quality or *pro rata* to the amount of butter which it produces. The richer the milk the better his return and vice versa. The business being purely co-operative no payment is made till the returns come in and after all expenses are paid the balance is divided. Each supplier has, therefore, a direct interest in the concern and consequently a strict eye is kept on the stock supplying the milk in order that the maximum results may be secured. Co-operation in butter-making tends to increase the price of the product. When butter-making is carried on in the farm houses the work under such circumstances does not yield a uniform quality: and uniformity is essential if we would have our butter fetch the highest price and become an article of commercial importance.

Peace River All Right

For the first time in our history the season here has been a hard one. The lack of rain, and frost in August, were severe drawbacks. Nevertheless, we fared about as well as any one. The possession of cheap land, low taxes and plenty of wild land to run his stock on, has given the farmer an advantage that counted much toward getting past a bad situation. As nearly as can now be figured out the total grain crop of the north will be in the neighborhood of three-quarters of a million bushels. This includes all varieties as well as that which will only make stock feed.

North of the Peace, from Peace River to Dunvegan, there will be threshed in the neighborhood of 250,000 bushels in the Spirit River Valley, while Grande Prairie will make up the balance and maybe a little more.

On the edge of the beautiful Saskatoon lake and Bear lake there are to be seen homes that compare favorably with those of the old eastern sections. Around these cluster the needed houses and fencing, and in the different yards, hogs, sheep chickens, ducks and geese, while on the rolling pastures graze many herds of cattle and horses. In the milk-house a cream separator and churn turn milk into quick money, while in many cases gardens that are a surprise to the newcomer are grown. Flowers, too, are grown in wonderful profusion by most of the people who care for these other things that are big factors in life

A carload of shorthorn cattle that were shipped from Edmonton recently made a record trip for freight, being on the road only thirty-six hours. Al Maley, who brought the cattle in for distribution among buyers here, says that the demand for purebred stock among the farmers is good and while he does not expect to bring in many this season, enquiries denote that as soon as conditions will warrant, the Peace River farmer will have the best there is in the stock line.

This is a good field for furs, as one company shipped out last year more than $100,000 worth of raw furs.

Ye Olde Time Singing School: By ETHEL MUNRO

An Entertainment That Gets People Together and Kindles a Real Social Spirit

WHERE it is desirable to get up an entertainment on short notice, or without a great deal of trouble, the reproduction of an old-fashioned singing school s well worth considering. It does not mean a great deal of work or responsibility for any one, and it involves the whole community in taking part. With a good selection of songs, good practice every evening for a week or two, the best use of local talent in the way of solo-singing, orchestra and elocution, and not the least important, if the individuals will give some care to getting up picturesque costumes for the affair, it is about certain to be an unqualified success. Old-fashioned costumes are, of course, the most appropriate. The following programme might be arranged:

A typical singing-school chorus in stage costumes.

Publick Meeting Of Ye Jacksonville Singing School
At Ye Church in Ye Wildwood
On Ye Fourteenth Day of Ye Romantick Month of February.

"If Singing be so good a Thinge,
I wouldc all Men might Learne to Singe."

Ye School assembled itself at ye twentieth Hour, being just Candlelite.
Ye School is Called.

Then: Takes places as is ye Custom, ye Tuning of ye Voices.

Then: Ye Singing of divers Melodies led by ye School.

When Jack Comes Home Again.
Ye Minstrel Boy.
Darling, I am Growing Olde.
Tenting To-night.

Then: Ye Candles are extinguished.

Note: Ye Minister of ye Church admonisheth Youths and Maidens as to seemly Behaviour during Absence of Candlelite.

Ye Magick Lanterne Pictures are shown on ye Sheete.

All present join lustilie in singing ye olde-time Songs of Home, Church and Country.

Then: Ye Candles are set alight.

Then: Ye little Maiden Ruth Updike, but five years of age, sings bravely and alone, a Song of Ye Merrie Robin.

Then: Dame MacGregor plays upon ye Harpsichord and sings Ye Auld Scotch Songs.

Then: Village maidens give out Tunes of ye College. All present join in ye Refrains.

Then: Ye Mistress of ye School, Mistress Huff, sings ye plaintive and thrilling ballad of Kathleen Mavourneen.

Then: Ye young yoemen sing and whistle right merrily, songs of patriotism and airs of the day. All present join in ye refrains.

Then: Dame Middleton sings Robin Adair, a Tale of exceeding sadness, to be lightened only by ye Irish ballad of Rory O'More.

Then: Mistress Stephens, artiste in ye higher schools of Musick, sings Ye Ballad of Bonnie Sweet Bessie.

Then: Ye singer Tommy Hopkins sings with plaintiveness and feeling Ye Land O' Ye Leal, and in more sprightly vein, Ye Songe of Ye Veteran.

Divers Members of Ye School during the session recite pieces. These being:

Tragedy of A Gentleman of Color and a Mule, declaimed by Joshua Hamlet Ganoung.

A Just Estimate of ye New Church Organ by Sister Prudence Wright.

True History of Dame Abigail Becker, by sweet Katharine Muir.

A Learned Discourse on Woman's Rights by Miss Calara Pinter, Ye School Mistress.

Rightful Account of her own Visit to Ye Opery, by Aunt Sophrony Tabor (*nee* Gertrude Ramsay.

The Speaking and Singing will be interspersed with musick from ye orchestra composed of young Men with sweet-tuned Fiddles and Dame Osborne playing on ye Harpsichord.

Lastly will be a Skillful Exhibition of Ability, a chorus of three parts, each relating one and the same Tale, but at different stages, so that only with difficulty each keeps to his own Part, the choruses being Three Blind Mice, Ye Bear Went Up Ye Mountain, and others.

Note.—Inasmuch as ye young Maids are shamefaced, ye young Men are requested to look from them when they do sing.

Ye Women who bring Babies are requested to leave them with ye doorkeeper till ye end of ye singing.

The programme printed on hand bills or posters, is one of the best means of advertising the entertainment, where it is given to raise funds for Red Cross or patriotic work.

In School Days

Still sits the school-house by the road,
A ragged beggar sleeping;
Around it still the sumach grow,
And blackberry-vines are creeping.

Long years ago a winter sun
Shone over it at setting;
Lit up its western window-panes,
And low eaves' icy fretting.

It touched the tangled golden curls,
And brown eyes full of grieving,
Of one who still her steps delayed
When all the school were leaving.

For near her stood the little boy
Her childish favor singled:
His cap pulled low upon a face
Where pride and shame were mingled.

Pushing with restless feet the snow
To right and left, he lingered;
As restlessly her tiny hands
The blue-checked apron fingered.

He saw her lift her eyes; he felt
The soft hand's light caressing,
And heard the tremble of her voice,
As if a fault confessing.

"I'm sorry that I spelt the word:
I hate to go above you,
Because,"—the brown eyes lower fell—
"Because, you see, I love you!"

Still memory to a gray-haired man
That sweet child-face is showing.
Dear girl! the grasses on her grave
Have forty years been growing!

He lives to learn, in life's hard school,
How few who pass above him
Lament their triumph and his loss,
Like her—because they love him.

—Whittier.

"Christmas is indeed the season of regenerated feeling — the season for kindling not merely the fires of hospitality in the hall, but the general flame of charity in the heart."

—Washington Irving.

THE BEST LINIMENT
OR PAIN KILLER FOR THE HUMAN BODY
Gombault's
Caustic Balsam
IT HAS NO EQUAL

For the Human Body —It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons Exterior Cancers, Boils Corns and Bunions CAUSTIC BALSAM has no equal as a Liniment.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

A Perfectly Safe and Reliable Remedy for
Sore Throat
Chest Cold
Backache
Neuralgia
Sprains
Strains
Lumbago
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Sore Lungs
Rheumatism
and
all Stiff Joints

REMOVES THE SORENESS--STRENGTHENS MUSCLES
Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than $120.00 paid in doctor's bills." OTTO A. BEYER.
Price $1.50 per bottle. Sold by druggists, or sent by us express prepaid. Write for Booklet R.
The LAWRENCE-WILLIAMS COMPANY, Toronto, Can.

Take Good Care Of The Colts

It's cheaper to *raise colts* than to *buy horses*. But it's *costly* if you *lose* the colts. Keep a bottle of Kendall's Spavin Cure handy. For thirty-five years has proved it the safe, reliable remedy for spavin, splint, curb, ringbone, bony growths and lameness from many causes.

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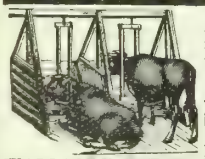
is sold by druggists everywhere at $1 a bottle, 6 bottles for $5. Get a free copy of our book "A Treatise on the Horse" at your druggist's or write us. 116
Dr. B. J. KENDALL CO., Enosburg Falls, Vt.

CRUMB'S IMPROVED WARRINER STANCHION



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are promptly relieved with inexpensive home treatment. It absolutely removes the pain, swelling, tiredness and disease. Full particulars on receipt of stamp.
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482 Lymans Building Montreal, Canada

About Live Stock

WINTER RATIONS FOR HORSES.

TO GATHER data upon the subject of cheap wintering of horses an experiment was started at the Cap Rouge Experiment Station in 1911 and has been continued during five consecutive winters, with mares and geldings, some nervous, others quiet, aged five to eighteen years. It has been found that they fared well on a daily ration of one pound mixed hay, one pound oat straw, and one pound carrots or swedes for each one hundred pounds of their weight. Not only did they gain an average of twenty-nine pounds during the five months of the test, but they showed, the following season, that they had lost no vitality nor energy.

A SHEEP RANCH.

D. Stewart, of New Liskeard, has purchased about 600 ewes to place on his 480 acre farm near Earlton on which he has now 100 acres of fall wheat sown. The land is well adapted for the production of clover. The soil is a clay loam.

Trademarks of Breeds

By J. HUGH McKENNEY

OF WHAT value are the so-caled fancy points, such as color and markings? Judging from the attention received from breeders, they are evidently of importance. From an esthetic standpoint they are, of course, quite legitimate and it is usually in this respect that the average person views them. To one not well versed in livestock these present the most striking difference that distinguishes one breed from another. A Jersey cow is recognized by its fawn color and dark muzzle. He knows a Holstein because of its black and white spots, but if there is a white band around the middle he calls it a Dutch Belted. Herefords are known by their white faces, while almost any cow of a red, white or roan coloring passes for a Shorthorn. Doubtless if the white face of the Hereford were painted red to match its body there would be another addition made to the last named category. Of course, the experienced stockman would rate other characteristics such as conformation, shape of horns and so forth. These fundamental differences are more or less marked in all cases yet color seems bound to serve as a convenient and conspicuous label for the breeds.

Fixing desirable types is a complex problem in itself. Unless, therefore, a definite gain is made in securing useful qualities the practical breeder is wasting his time in going after color, markings and the like. If they are no value why should he pay any attention to them? Why not work along these lines that promise the best monetary returns and let the other things come out as they will? A tendency in this direction has been noticeable in recent years among some of the dairy breeds; emphasis being placed on performance, and greater latitude allowed as to exact coloring. But while it would be folly for a breeder to concentrate all his energies on ideal markings, he would still be unwise in going to the other extreme. By preserving a proper balance he stands to be the gainer.

Take the Holsteins as an example. They have been in process of development for—no one seems to know how long—always with the object of milk production in view. Gradually their characteristics became fixed and no class of cattle breed truer to type and color. It is fairly safe to infer, then, that the markings represent certain combinations of character which in the course of evolution have been developed for economic purposes. That is, their presence guarantees to a certain extent the animal's capacity for producing milk.

If one is engaged in cow improvement solely for his own personal use as a dairyman, the milk's the thing. He is not likely to ask her to present a certificate of character properly proportioned in black and white. Having an intimate knowledge of her capacity that is enough for him. In the case of a breeder, however, the situation is different. He is in the market to sell stock. A cow to find favor in his eyes must not only come officially recommended, but, like a consignment of merchandise, show on her own back the trade mark of excellence. With him it might almost be said, the trade mark's the thing.

The main excuse for a trade mark is to prevent fraud. In putting out his brand of goods the manufacturer warns the public to beware of spurious imitations and proffers the information that his offerings are genuine. This applies just as appropriately to the sale of livestock, for if an animal drop an offspring that is decidedly off-color we are at once suspicious as to the purity of its breeding. Suppose, for example, that Holstein cattle had no regular color and could be registered regardless of this or the kind of markings they possessed. Would it not be comparatively easy for an unscrupulous breeder to sell a cross-bred calf as

a purebred. Then there is always a danger of accidental or unintentional crossbreeding and against these the standardized markings act as a fairly effective check.

Of course the trade marks of a breed can not always be accepted implicitly as a guarantee of purity, for the associations between it and the other deeper qualities may be broken up. For instance, the Hereford tends to transmit its white face to its offspring, to whatever it may be bred, so that the crossbred offspring may bear the Hereford trade mark. In the next generation it may come into entirely new associations and here is the advantage of having a trade mark which is complex. A Hereford crossed with a Polled Durham would give offspring with red bodies and white faces, but they would be polled. If crossed with a Polled Angus they would not only be polled, but their body color would be black instead of red, although the white face would still be one of the dominant characters.

Attempts are frequently made to determine the breeding of these crossbreeds as indicated by the most prominent trade marks presented, as in the case of winners at our fat stock shows. For example, some may remember Challenger, the prize fat steer at the International several years ago. He was listed as a "Grade Hereford," his dam being a crossbred Holstein-Shorthorn cow. He, himself was blue-gray in color, white-faced and polled, and greatly resembled a Hereford-Angus cross. These striking characteristics of several distinct breeds gave rise to some strong claims and considerable discussion by admirers of the breeds in question.

It must be remembered, however, that the breeder's job is no sinecure as it is. If led to give more attention to the trade mark idea he is apt to neglect the still more important problems already in hand, as has frequently been done in the past. To dispense with the former altogether would hardly be advisable for the following reasons: It affords a convenient means of identifying the breeds. It is a means of protection for the purchaser, for unfortunately some breeders are dishonest. It is an aid to detecting mistakes or unintentional crossing of breeds. A herd of uniformly and beautifully marked animals have an esthetic value that breeders do not care to disregard. Our method of keeping records and pedigrees are not yet sufficiently accurate and complete to stand alone. While these conditions exist there is still considerable reason for fancy points in utility breeds.

B.C. Chinamen Sell Potatoes

The Chinese potato growers in many parts of the province sold their potatoes for $15 to $20 per ton. These went east in the month of October. Labor has been scarce also. Chinamen gat 12½ cents a sack for gathering the spuds.

The potato industry has assumed large proportions in some sections, and only a very small fraction of the land is as yet under crop. An odd fact is that while 90 per cent. of the land upon which the crop is grown, is owned by white men, 5 per cent. of the crop is produced by Chinese. The Orientals rent the land from the white owners at from $6 to $15 an acre. They will clear and irrigate the land as well as pay rent for it.—E. T. R.

A Hog At His Best

He's never at his best if he's wormy. Neither is your other stock. Worms distress animals, retard thrift, bring on contagious diseases. Get rid of worms.

Dr. Hess Stock Tonic

Expels Worms **Makes Stock Healthy**

I tell you it pays to condition your stock now, in midwinter. Use Dr. Hess Stock Tonic and clean out their systems, purify the blood, then they will eat with a relish and digest their food. Buy it from the local dealer—the man you know in your town.

Why Pay Peddlers Twice My Price?

Costs you one-half less to buy and requires no more at a time to feed.

25-lb. Pail, $2.25; 100-lb. Sack, $7.00

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My Guarantee

So sure am I that Dr. Hess Stock Tonic will positively rid your hogs of worms and keep your stock healthy and vigorous, that I have authorized my nearest dealer to supply you with enough for your stock, and if it does not do what I claim, return the empty packages and get your money back.

Write for Free Stock Tonic Book

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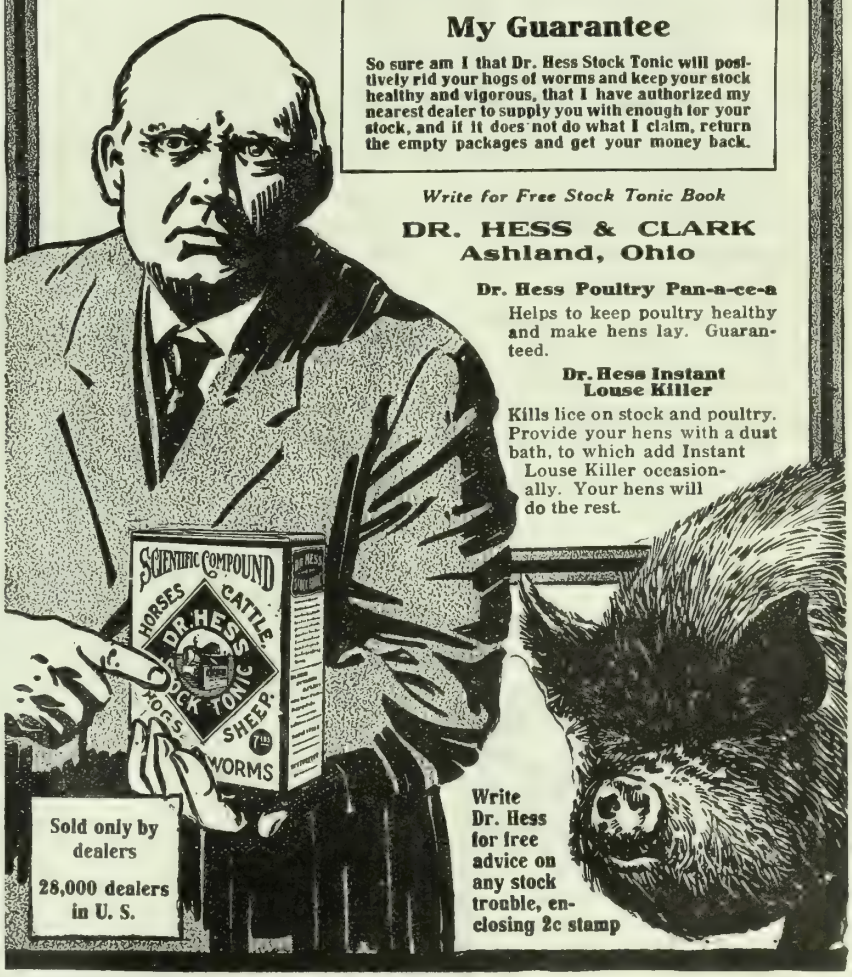
Ashland, Ohio

Dr. Hess Poultry Pan-a-ce-a

Helps to keep poultry healthy and make hens lay. Guaranteed.

Dr. Hess Instant Louse Killer

Kills lice on stock and poultry. Provide your hens with a dust bath, to which add Instant Louse Killer occasionally. Your hens will do the rest.



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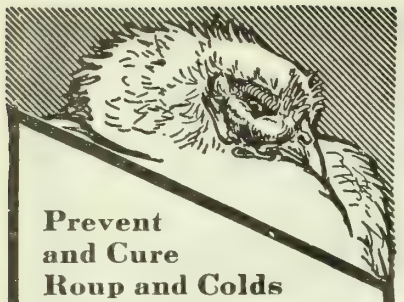

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Minard's Liniment always gives satisfaction. For any ache or pain. It gives instant relief.

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Yarmouth, - - N.S.

In The Poultry Yard

POULTRY CHATS

By DAN DALY.

THE DAYS are short and the birds should be kept exercising most of the time they are off the roost. Do this by feeding their hard grain in litter five or ten inches deep of straw.

If the weather is very cold it will be necessary to fill the water dishes several times a day. Perhaps a burlap curtain in front of the perches for use on very cold nights may be a good thing to put in your hen house. Some poultry keepers are getting rid of the dropping boards altogether.

Breeders are feeding dried beet pulp instead of the supply of vegetables which are short this year. Mix a little beef scrap with it if they do not relish it at first.

This is the month for making up the breeding pen. It is a wise plan to mate cockerels with hens which are one or two years older. If one is keeping poultry for the eggs they yield he should use the hens which are the earliest to lay. There is no difficulty in identifying them if they are marked by leg bands.

Some poultry keepers mate pullets with cocks one, two or three years older, but this plan has one disadvantage. If the pullets have been laying well all winter they will not be in the best condition to produce strong, rugged chickens, and if they have not been laying well, they are not suitable birds to breed anyway.

One point in making up breeding pens should be remembered, and that is that the male should have come from an egg laid by a heavy laying hen. It has been shown that the male has a very strong influence in building up a strain of good laying birds.

While this plan of making up breeding pens is commonly adopted, yet on some big plants old cocks are placed with the pullets in the laying pens and the eggs used just as they come. On one important plant 100 Leghorn pullets are kept in a block and cocks are put with them at the rate of one to every twenty-five. The fertility is high, too. Ordinarily, fifteen pullets to a cock is considered rather a large number.

GET INCUBATORS READY

If we are going to use incubators this spring, it is wise now to make a selection. The time for operating them is not very far away, and one does not want to be rushed at the last moment. These machines entail a considerable investment and should not be purchased without some study of the different types and their characteristics. Much good advice can be given from the different poultry stations throughout Canada, who will be glad to answer and send any bulletins that the breeders may want. Any farmer would do well to keep in touch with the poultry division in his own province, and have his name put on the mailing list for the literature.

It would be a wise move also to write to the different makers of the incubators for the best points they have to make in recommending their machines. You could then study these for yourself and decide what is the best thing to be done after you have also read the poultry department bulletin.

Many people find it comparatively easy to hatch chicks in an incubator, but hard to raise them after they are hatched. This trouble is largely attributed to the brooders used in raising them, but this has been proved to be wrong theory. Some diseases seem particularly likely to attract chicks hatched in an incubator, and it is now well known that infection may be conveyed through the shell of an egg or even exist in it before it is laid, thus carrying to the embryo chick the germs that lead to its early death. To prevent this, the best practice of the latest experimenters is to thoroughly disinfect the eggs and incubators before hatching is begun. To accomplish this the eggs are wiped with a cloth dampened in alcohol and the incubator is washed with a solution of some antiseptic. Every part of the inside and the egg crate is washed and then set in the sun to dry. The proper location for an incubator is in a room or cellar where the temperature does not fall below 40 degrees or go above 60 degrees, where the atmosphere, by proper ventilation can be maintained as nearly like out of doors conditions as possible. The greater the number of incubators in one room, the greater the necessity for well regulated effective ventilation.

SIMPLE HEN HOUSE FIXTURES

The house should be of simple construction, for the fewer permanent fixtures there are in the house the better. The feeding hoppers, dusting boxes and nests should all be movable so that the house will be easy to clean. The nests are made twelve inches wide by fifteen inches deep. They should be made so that they are dark, as this tends to prevent egg eating. There should be one nest for every four or five fowls. A Leghorn requires about eight inches roost room; a Plymouth Rock

Rhode Island Red, Wyandotte, or Orpington requires about ten inches rest room.

ALFALFA FOR CHICKENS

Chickens will, and do, eat alfalfa with a relish. I throw on to the cement floor at one end of the pen some second growth alfalfa, and the way those hens will pick the leaves up would warm your heart. We give it to them once or twice a week for a change. Cabbage makes a splendid winter feed. We hang up a mangel also, which the hens like to pick at.—E. R. D., Ontario.

SELLING FEATHERS

H. A. Q., Ontario: As poultry raising is a large side line on our farm we have considerable quantities of dry plucked feathers on hand. Where can we dispose of them?

Answer: Write to some of the big departmental stores ,who use lots of these in their manufacturing departments, and to the leading mattress and pillow firms.

POULTRY FATTENING AT M.A.C.

The Poultry Department of Manitoba Agricultural College is doing a humming business this year in co-operative fattening and marketing of farmers' chickens. Last year the first attempt along this line was made, and upwards of 1,600 chickens were consigned by Manitoba farmers and were crate-fattened at the college. This year up to November 17, very close to 3,000 chickens and about 175 turkeys have been received and 3,000 more chickens are expected. Prof. Herner reports both chickens and turkeys from 6 to 8 weeks late in their development this year. Not only were they delayed in their growth owing to climatic conditions, but the high price of grains has also resulted in many of them being very badly underfed. In consequence, the general dressed poultry market is very short of well fleshed poultry, and this accounts for the strong demand and good prices for the best quality of poultry. Prof. Herner is looking for good prices right through the season for top notch stuff.

TO PREVENT HENS EATING CHICK FEED

We keep a large flock of hens and raise yearly a large number of chickens. During the first week of the chickens' life we keep them apart from the flock; so we can give them the extra careful attention they require. Later, they are allowed free run; but still they need special care and frequent feeding, and it was always a great source of annoyance to feed them, as hens were surely around to snatch the choice morsels not meant of them. But this year we devised a simple plan by means of which chicks can eat leisurely without any interference. We took empty salt barrels, and over the tops of them tacked coarse poultry wire, after which we laid them on their sides in the hen yard, and threw in feed. After a time or two the chicks caught on to the racket, and it is amusing to watch them run into their barrels, which to be sanitary should be dusted out daily. Turn barrel on end and give a slight hammering on sides and bottom, and nothing will adhere to it.—L. Crummy.

Big Ben

A *Westclox* Alarm

5 a.m.—

To Beat the Time Clock

FIVE A. M. for factory men who beat the time clock at the works. Big Ben gives 'em their breakfast call long before the whistle toots.

They used to pound the pillow right up to the last dot—until they learned a better way—as the paymaster soon found out.

Give Big Ben a trial, *yourself*; make *your* roll-over-time pay.

You'll like him face to face. He's seven inches tall, spunky, neighborly—downright good.

At your dealer's, $2.50 in the United States, $3.50 in Canada. Sent postpaid on receipt of price if your dealer doesn't stock him.

La Salle, Ill., U. S. A. Western Clock Co. Makers of *Westclox*

Other Westclox: Baby Ben, Pocket Ben, America, Bingo, Sleep-Meter, Lookout and Ironclad

Prize Poultry from England

Good poultry pays. Get the best. HAROLD CORRIE, whose Blue Orpington Cock won the 1st prize and Challenge Cup, Club Show, Bath, 1915 (here shown), offers the best Blue, Black, Buff or White Orpingtons or Cayuga Ducks, at very reasonable prices.

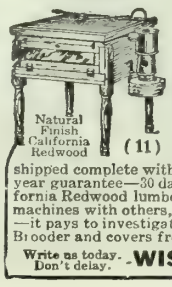
Write him your requirements.

Special facilities for exportation. Satisfaction guaranteed.

Also breeder of pedigree Jersey Cattle and Berkshire Pigs. Write for particulars.

HAROLD CORRIE, QUOBLEIGH, EASTLEIGH HANTS - ENGLAND

Cables:—Corrie, Fair Oak, England



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FREIGHT AND DUTY PAID

If ordered together we send both machines for only $14.50 and we pay all freight and duty charges to any R. R. station in Canada. We have branch warehouses in Winnipeg, Man. and Toronto, Ont. Orders shipped from nearest warehouse to your R. R. station. Hot water, double walls, dead-air space between, double glass doors, copper tanks and boilers, self-regulating. Nursery under egg tray. Especially adapted to Canadian climate. Incubator and Brooder shipped complete with thermometers, lamps, egg testers—ready to use when you get them. Ten year guarantee—30 days trial. Incubators finished in natural colors showing the high grade California Redwood lumber used—not painted to cover inferior material. If you will compare our machines with others, we feel sure of your order. Don't buy until you do this—you'll save money—it pays to investigate before you buy. Remember our price of $14.50 is for both Incubator and Brooder and covers freight and duty charges. Send for FREE catalog today, or send in your order and save time.

Write us today. Don't delay. WISCONSIN INCUBATOR CO., Box 206, Racine, Wis., U. S. A.

NEWCOMBE PIANOS

A Good Resolution

Resolve that this year your home shall have the cultivating influence and enjoyment of music rendered on a sweet, pure-toned NEWCOMBE PIANO. The piano with a responsiveness and clarity of tone that is delightful to the most delicate ear. Newcombe Pianos are the embodiment of over half a century's experience and study.

Newcombe Player Pianos have all the latest improvements and a control that is almost human. If it's a player piano you are wanting, the "Newcombe" will give you entire satisfaction.

We pay special attention to mail orders. Let us help you to get just that piano that you have in mind.

Newcombe Piano Co., Ltd.

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Music Lessons Sent FREE Wonderful home study music lessons under great American and European teachers. The lessons are a marvel of simplicity and completeness, endorsed by Paderewski and other great authorities.

Any Instrument or Voice

Write us the course you are interested in, age, how long you have taken lessons—if at all, etc., and we will send you six lessons free and prepaid—any of the following Complete Courses: Lessons in PIANO (students' or teachers' courses), by the great Wm. H. Sherwood; HARMONY, by Dr. Protheroe and Rosenbecker; VOICE COURSE (with aid of phonograph), by Crampton; PUBLIC SCHOOL MUSIC, by Frances E. Clark; VIOLIN, CORNET, MANDOLIN, GUITAR, BANJO, REED ORGAN, by equally eminent teachers. We want to prove in this remarkable way what fine lessons they are—SEEING IS BELIEVING. Full particulars sent along with free lessons. Send no money.

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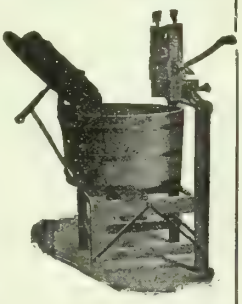

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Established in 1881 OTTAWA, ONT.

FROM THE KITCHEN WINDOW

A Woman's Outlook

WHAT does the New Year hold? Of all the times the bells have tolled out the old year, never before were so many women asking this question with an appalling sense of their own powerlessness. Never before did the stress of outside conditions dampen the joy in so many homes—which isn't right because it doesn't fortify people for anything. We marvel sometimes that the brightest people we know have endured the most. There isn't any mystery about it; if they had given up they would have gone to pieces long ago. It is just a case of the survival of the courageous.

Mingled with the encouragement that the New Year is a fresh beginning, somewhere in the secret soul of every worker, I venture, there is a stifled little sigh at the grind, and repetition and responsibility of another twelve months with all that must be crowded into them. The woman who is housekeeper and homemaker and mother to a family might be pardoned for this little sinking more than anyone else, because on no other person is so much depending. But it isn't good to look ahead too much; it wastes too much of the force we need for to-day, in advance suffering for the calamities that never happen. We have much to learn from the fable of Dwight L. Moody's clock.

ONE TICK AT A TIME.

The clock, it seems, came up to the end of the year and looked ahead discouraged. It thought, "Here I have to begin again and tick sixty times in every minute, for sixty minutes in every hour, for twenty-four hours in every one of three hundred and sixty-five days, and I'm not going to try." And then this brilliant idea occurred to the old clock, "But I only have to tick one tick at a time." How much unnecessary nerve strain we save ourselves when we learn to live one day at a time.

Another thing generally very hard for the busy mother to learn is the necessity of rest and play for herself. She believes in it for the children, for everyone else but herself. She considers it her place to take up the heavy and sometimes dull books of life each day, turning to where the taskmaster bent down the page the weary night before. Maybe you have been doing this year after year until you have forgotten that every life should have its play day. Since the first child came you have been on duty—loyal, patient, unfailing. You think things will go all awry if you cease your captain's work even for a day. Probably they will, but they will soon straighten out again. And if you get your day of rest in the middle of the journey the whole journey may be longer. The family may need your counsel and guidance later more than they need your labor now.

ARE OUTSIDE INTERESTS WORTH WHILE?

In times like these, too, you cannot look out from your kitchen window without thinking of other things apart from the cooking and stewing and polishing, the physical care of your own family. Surely there are left but few people of intelligence who will say that a woman's place is only in the home, and that anything which takes her out is to be condemned. There may have been a time when the saying was true, but it has not been true since the second cabin joined the first in the wilderness clearing. Community life makes community interest and the woman is untrue to the best interests of her own home who absents herself from the give and take of neighborhood affairs. There is a saving grace for the community and the nation, a solution for many ills in the activities of serious-minded women banded together with good leadership. Have you considered how much time and help you can give to outside needs this year Perhaps you feel that

This charming Ontario girl radiates happiness, and finds a lot of it in doing things.

your work outside since the Red Cross needs began has been a little too much, yet you know you are more unselfish, more charitable, more adaptable, a bigger woman in every way as a result of the sacrifice. In our "News from Women's Organizations" in this issue we have some pretty inspirational things. We would be very glad to hear from your Institute or club or church society, so that we may have a chance to learn from each other.

Have you ever bent over a fine piece of hand work until your eyes grew blurry and the nerves ached down the back of your neck And have you ever put it down and gone to the door and looked off at the hills and the skies until your eyes got their normal focus again? You could have picked up your sewing and gone on with it again as fresh as ever, after that. All you needed was to let your attention go to some distant object for a while. We make the mistake of neglecting to do this all through our lives. When the routine of the house "gets on our nerves" an hour or two with our minds on something else might readjust everything and give a new stimulus for our work. A hobby like music, or house plants or a flower garden or reading is a whole lot more than a pastime. To begin a library in the house with a few choice volumes whose truths may be knit into the children's souls as well, is a step worth while in the year's work. The casually chosen book from the public library is all right, but it won't influence you much in the future. The book you read and then go back to months or years later is the book that moulds your life.

BETWEEN OURSELVES.

And in connection with your reading, there is something you can do to help us very materially, if you have time. In strict confidence, there are several things an editor doesn't know, and one of the questions coming up a dozen times a day is, "Will our readers be interested in this?" As there is no answer to be had we can only use our own judgment, based upon the best advice we can get, and our own liking for the thing under consideration. We are trying hard to keep the magazine such that busy people in farm homes may never feel their time has been wasted no matter what they have read in it. We would appreciate very much your frank expression of what you like or don't like.

A HAPPY NEW YEAR.

Our sincere wish for you is a happy New Year. We believe it will come, because it generally does come, mixed in with the trials and crosses, to the busy. thinking, responsible people who sort of lose their lives in the lives of others. As Mrs. Wilcox expresses it:

"Seeking for happiness we must go slowly:
The road leads not down avenues of haste,
But often gently winds through by-ways lowly,
Whose hidden pleasures are serene and chaste.
Seeking for happiness we must take heed
Of simple joys that are not found in speed.

Dreaming of future pleasures and achievements
We must not let to-day starve at our door,
Or wait till after losses or bereavements
Before we count the riches in our store.
Seeking for happiness we must prize this,
Not what will be, or was, but that which is.

In simple pathways, hand in hand with duty,
With faith and love, too, ever at her side,
May happiness be met in all her beauty,
The while we search for her, both far and wide.
Seeking for happiness, we find the way,
Doing the things we ought to do each day."

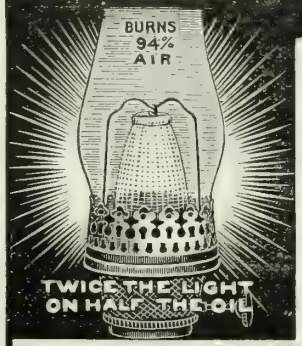
—*Genevieve.*

Scientific tests prove it to possess
a great body-building power

5A

New COAL OIL LIGHT BEATS ELECTRIC OR GASOLINE

10 Days FREE—Send No Money



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common coal oil (kerosene), no odor, smoke or noise, simple, clean, won't explode. Three million people already enjoying this powerful, white, steady light, nearest to sunlight. **Won Gold Medal** at Panama Exposition. Greatest invention of the age. Guaranteed.

$1000 Reward will be given to the person who shows us an oil lamp equal to the new **Aladdin** in every way (details of offer given in our circular). We want **one user in each locality** to whom we can refer customers. To that person we have a special introductory offer to make, under which one lamp is **given free.** Write quick for our 10-Day Absolutely Free Trial Proposition and learn how to get **one free.** **Yours FREE**

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Largest Coal Oil (Kerosene) Mantle Lamp House in the World

Men With Rigs Make $100 to $300 Per Mo. Our trial delivery plan makes it easy. No previous experience necessary. Practically every farm home and small town home will buy after trying. One farmer who had never sold anything in his life before writes: *"I sold 61 the first seven days."* Christensen says: *"Have never seen an article that sells so easily."* Norring says: *"92 per cent of homes visited bought."* Phillips says: *"Every customer becomes a friend and booster."* Kemerling says: *"No flowery talk necessary. Sells itself."* Thousands who are coining money endorse the **Aladdin** just as strongly. **NO MONEY REQUIRED.** We furnish stock to reliable men to get started. Ask for our distributor's plan, and learn how to secure an appointment and make big money in unoccupied territory. State occupation, age, whether you have rig or auto; whether can work spare time or steady; when can start; townships most convenient for you to work.

Is it known to you

that the simple way to correct gall sores is to use VENTIPLEX Shoulder Pads, which remove the cause—irritation?

Horses feel better, work better, and live longer with VENTIPLEX PADS.

Ask your dealer for Ventiplex Pads, and if saving fuel is a consideration, get "Ventiplex" Weather Strips, which prevent draughts.

These pads are soft and comfortable and remain so, after being washed, and washing Ventiplex pads is an easy matter, then they wear for a long while—try them! Your horses will return thanks in extra work.

The Burlington-Windsor Blanket Co., Toronto, Canada

Keep Your Stock Vigorous

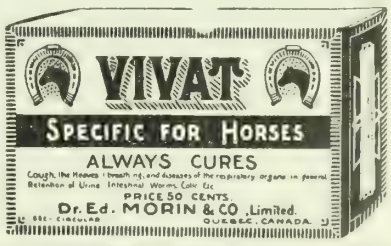
OMAZON is a Canadian Food and a wonderful producer of vigorous stock. It gives endurance, increases the appetite and gives vigor. It is also a medicine for horses, pigs and poultry. As a blood purifier, and for increasing the quantity of milk in mare and cow, it is highly recommended. Saves grain. When mixed with other foods, cuts down your feed expenses. Write us for circulars.

ALWAYS CURES

Vivat is daily increasing in favor for its excellent curative qualities for horses—it is a horse's best friend. It cures coughs, heaves, broken wind, etc. Beneficial in case of colic, intestinal worms and kidney trouble. It also increases appetite, gives vigor, strength, endurance. For the respiratory organs it is without equal.

Particulars on Request.

Dr. Ed. Morin & Co., MOUNTAIN HILL QUEBEC, CAN.



Sales and Wants

The Farmer's Exchange

5 cents a word—per month

Rates for Classified Ads.—Insertions in this column five cents per word per issue. Each initial, four or less figures in one number count as one word. Name and address is counted as part of the ad. All orders must be accompanied by cash. Forms for the month close on 12th preceding month of issue.

RHODE ISLAND REDS — OVER 95 per cent. of eggs from these birds hatched this year. A few hens for sale. F. J. Boland, 1391 Bloor street, Toronto.

BREEDING STOCK ALWAYS ON hand. My birds are performers. Single Comb White Leghorns and Barred Plymouth Rocks. Some special bargains now. Lewis N. Clark, Oldham Farm, Port Hope, Ont.

IDEAL S. C. WHITE LEGHORNS—We are offering superior quality stock bred from Guelph and Toronto winners. Large, attractive birds at prices assuring you a profitable investment. W. F. Disney, Whitby, Ont.

JEWELRY

WALTHAM WATCHES — $5.50 TO $150.00 Reliable timepieces. Send for fre catalogue to The Watch Shop, Wm. E. Cox, 70 Yonge St., Toronto. (tf)

FARMS WANTED

FARMS WANTED—HAVE 7,000 BUYers; describe your unsold property. 420 Farmer's Exchange, Denver, Colo. (12-16)

ALFALFA WANTED

BALED ALFALFA—ONE CARLOAD wanted. State whether first or second cutting, how cured and price F. O.B. your station. Box 40, The Farmer's Magazine, Toronto.

FARMS FOR SALE

320-ACRE FARM FOR SALE cheap in well settled district in South Saskatchewan. For fuller description, write Albert Sward, Hanson, Sask. (1-17)

HORSES WANTED.

WANTED — A TEAM OF HEAVY horses (mares preferred), between ages of four and six years. Send particulars of weight and prices to Box 20, The Farmer's Magazine, 143 University Ave., Toronto. (1-17)

NEWS FROM Women's Organizations

A group of Bayside Women's Institute members.

AT THE Women's Institutes' Convention at Toronto, the following resolutions were passed to be presented to the Government:—

1. WHEREAS the Women's Institutes of Ontario have long been convinced of the urgent need that the Provincial Government should make better provision for the segregation and education of the feeble-minded.

AND WHEREAS a Feeble-Minded Exhibit held in Toronto last spring brought prominently to the attention of the public the cost in money, the misery and the appalling amount of crime, resulting from our neglect of the feeble-minded, and whereas there is grave danger that many feeble-minded people will wish to immigrate to Canada from Europe at the close of the present war, BE IT RESOLVED that the Women's Institutes of Central Ontario assembled in Convention at Toronto this 22nd day of November, 1916—

(1) Heartily endorse all efforts being made at the present time to secure a Government Commission to investigate the whole problem of the feeble-minded, and (2) Desire that, if necessary, there be direct taxation imposed on the Province for more adequate care of the feeble minded.

2. WHEREAS the Department of Education, recognizing the urgent need at this time for larger production on our farms, last summer allowed their year's academic standing to boys, who, having left school early to do farm work, and WHEREAS it is rumored that the Department of Education is planning to make a similar allowance for girls next year in order to encourage them to engage in work on farms, whether within doors or in the lighter farming out of doors, BE IT RESOLVED that the Women's Institutes of Central Ontario, assembled in Convention at Toronto this 22nd day of November, 1916, desire to endorse such action on the part of the Department of Education; and to recommend that the Department also make allowance for work in domestic science, gardening, bee keeping, etc., carried on by girls in villages or towns.

RESOLUTION RE MEDICAL-DENTAL SCHOOL INSPECTION.

3. THAT WHEREAS during the last four years the people of rural Ontario, through public gatherings in towns and villages and country places, through Women's Institutes, district and Provincial conventions, through Trustee Boards, Boards of Education, Boards of Health, Town and County Councils, and through resolutions addressed to their representatives in Parliament, have asked that attention be given to the health of children through Medical-Dental School Inspection, and whereas branch and district Women's Institutes with assistance given by the Institute Branch of the Department of Agriculture, the help of a grant for treatment from the Department of Education, and services of Medical Health Officer supplied by the Provincial Board of Health, have successfully carried on through their own schools, inspection of rural children who would not otherwise have been attended, and in some instances holding clinics and securing the services of specialists for children requiring minor surgical treatment; and WHEREAS BOTH the wish of the people to conserve the child life of rural Ontario and the practical way in which conservation may be accomplished have been clearly shown, THEREFORE, the representatives of Women's Institutes of Central Ontario assembled in Convention at Toronto this 22nd day of November, 1916, earnestly request that the Provincial Government set aside a special grant for the continuation and extension of rural Medical School Inspection and treatment in different health districts in the Province by making further provisions for medical service and nurses, and that Women's Institutes hereby agree to give necessary local assistance, financial and otherwise.

4. RESOLVED that the Women's Institutes be asked to co-operate in asking for better sanitary conditions at railway stations, on trains, and in churches and Sunday Schools of the rural districts and to report to the Institutes Branch of the Department of Agriculture when the

Give the "Kiddies" All They Want of

CROWN BRAND CORN SYRUP

It is one of the delicious "good things" that has a real food value.

A slice of your good homemade bread, spread with "Crown Brand", forms a perfectly balanced food, that is practically all nourishment.

So—let them have it on biscuits and pancakes, and on their porridge if they want it.

You'll like it, too, on Griddle Cakes—on Blanc Mange and Baked Apples. And you'll find it the most economical sweetener you can use, for Cakes, Cookies, Gingerbread and Pies.

Have your husband get a tin, the next time he is in town—a 5, 10 or 20 pound tin—or a 3 pound glass jar.

THE CANADA STARCH CO. LIMITED

MONTREAL, CARDINAL, BRANTFORD, FORT WILLIAM.

Makers of "Lily White" Corn Syrup—Benson's Corn Starch—and "Silver Gloss" Laundry Starch.

220

Our new recipe book, "Desserts and Candies", will show you how to make a lot of really delicious dishes with "Crown Brand". Write for a copy to our Montreal Office.

PADDLE YOUR OWN CANOE

and meanwhile puff gently at your pipe filled with fragrant slow-burning, satisfying Master-Mason,

SMOKE Master Mason

"IT'S GOOD TOBACCO"

and the coolest, smoothest, sweetest smoke obtainable. Made of selected fully-matured tobacco, pressed into a solid plug Master-Mason is the sportsman's choice being convenient, easy to carry, easy to cut, handy and always in prime condition for smoking.

Equal by test to the very best,
Much better than all the rest.

Say MASTER-MASON to your dealer — he knows.

PRICE: 15 CTS. THE ROCK CITY TOBACCO CO., LIMITED

THIS IS ERNEST B. JOLLIFFE—ANOTHER SPARE TIME MONEY-MAKER.

Ernest B. Jolliffe, one of our successful representatives, holds a regular position with a prominent Canadian Manufacturing concern. He was anxious to increase his income by utilizing his spare time in turning off hours into profits.

For over a year now he has been adding to his income by devoting his spare time to looking after the new and renewal subscriptions of our publications in his locality. He takes care of the neighborhood demand for "MACLEAN'S"—he talks with the farmers about the live ideas to be had from FARMER'S MAGAZINE. Unprofitable hours of old have been converted into a new channel of cash. We want more men of Mr. Jolliffe's calibre.

If you have some spare time we will buy it. Write us and we will send you full particulars of our spare time offer. Address Agency Division, Box 2.

THE MACLEAN PUBLISHING CO., Limited, 143-153 University Ave., TORONTO

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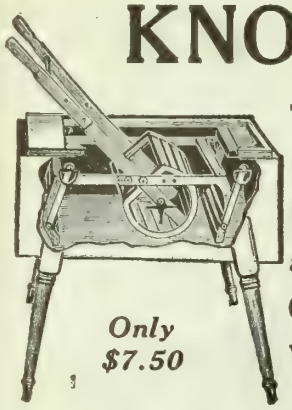

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Only $7.50

Every User Satisfied
and 100,000 are in use to-day

The KNOLL has won its hundred thousand friends because it has made wash-day easier, quicker, with better washed clothes. The KNOLL is really a labor-saver, there is no need for tiresome hand-rubbing, and there is no wear and tear on the clothes. Then think of the Knoll economy. For $7.50 you get a KNOLL which does your washing quite as well and as quickly as the elaborate, highly expensive washers. No home need be without a washing machine while they can get the KNOLL. Thousands of testimonials like the following have reached our office in praise of the Knoll: Gentlemen: "My washing machine is broken, and one of my neighbors loaned me her KNOLL. I liked it so much I am sending a money order for $7.50 so that I can have a KNOLL of my own." Another: "I have used a 'KNOLL' for two years, and it has given me the utmost satisfaction. I find it a great labor and clothes saver. Would not care to be without it."

Makes a Lighter Wash day For You

The "KNOLL" can be had for $7.50 F.O.B. Brantford. The Best and Cheapest washer in the world—can you afford to be without one? Send your order in today. Money refunded if not entirely satisfied. Testimonials and particulars sent on request.

Schultz Bros. Co., Ltd. BRANTFORD CANADA

That's Mine !

There is never any dispute about our clothing since we started using

CASH'S NAMES

Woven in fine Cambric Tape in Fast Turkey Red.

Using CASH'S NAMES is the ideal method for marking Linen, Knitted garments and woollens, which cannot be marked with marking ink.

Prices for any name not exceeding 22 letters,

24 doz.	$4.00
12 doz.	2.25
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SOLD BY ALL LEADING DRY GOODS AND MEN'S FURNISHING STORES.

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TRAIN YOUR MIND AND MEMORY

Take a course that will enable you to learn things easier and to remember them perfectly—that will double the effectiveness of your brain—also better your health. Ask about the Pelman Course. Write

Canadian Correspondence College, Limited
Dept. X, Toronto, Canada

proper authorities will be asked to take charge of cases needing attention.

5. In view of that fact that the unusual weather conditions prevailing during the past summer have seriously affected the pastures and also the root crop, thus rendering a shortage of feed for milch cows, and WHEREAS a great amount of cheese and butter is necessary for the provisioning of the army, and WHEREAS these conditions have produced such a shortage of milk that it is impossible for those who are not in a position of affluence to obtain the amount of milk necessary for the proper health and development of their children, and WHEREAS such large quantities of milk and cream are being used for the manufacture of ice cream, THEREFORE BE IT RESOLVED, that the Women's Institutes of Ontario in Convention assembled this 22nd day of November, 1916, do petition the Government to prohibit the manufacture and sale of ice cream as a luxury until the scarcity of milk is over and prices are normal.

6. WHEREAS the educational facilities for blind in Ontario have not been such as they are entitled to as British subjects, nor of such a nature as to fit them to earn a living and be an asset to the community to which they belong, THEREFORE BE IT RESOLVED, that the Women's Institutes of Ontario in convention assembled this 22nd day of November, 1916, do ask the Government to provide facilities for the proper education of the blind.

7. RESOLVED that a vote of thanks be tendered to Lady Hendrie for her address of Welcome and Reception, and also to Principal McKay, and to those who have assisted in the programme in the way of music and to all who have helped in the arrangements for the Conventions.

8. RESOLVED that letters of sympathy be sent to the widows of Honorable James S. Duff and Dr. C. C. James.

9. RESOLVED that Mrs. E. G. Graham, Brampton, be re-appointed to represent the Women's Institutes upon the National Service Committee.

The Women's Institutes of Ontario have contributed $400,000 for Red Cross and Patriotic purposes.

CANNING CLUBS FOR ONTARIO.

Plans are being made for the extension of the gardening contests and canning clubs in connection with the Women's Institutes of Ontario this year. At the fall conventions, Superintendent Geo. A. Putnam said: "While attending agricultural conventions and consulting with officials of the United States Department of Agriculture at Washington, D.C. last week, I was impressed with the possibilities of enlisting the co-operation of the girls and women in increasing the production of vegetables, fruit and poultry. All these may be canned at comparatively small cost at home, and much that is now wasted, especially the early fall apples and many vegetables may be preserved for winter use. When girls of ten and twelve years of age make from twenty-five to one hundred dollars from one-tenth of an acre, most of the product being canned for sale, you can see that there are great possibilities in this line. We cannot hope to make such large profits as in the Southern States where they have two or three crops on the same ground during the course of the year, but our supply of food can be materially increased and much waste avoided."

WOMEN'S INSTITUTES IN ENGLAND AND WALES.

Since the war began, Women's Institutes, organized after the Ontario system, have been formed in England and Wales. Among their aims for the duration of the war we find the following well worth considering in Canadian organizations:

Teach less wasteful methods.
Develop home and village interests for country women and girls.
Increase food supply.
Support the women on the land movement
Cultivate waste lands.
Form rural centres for war work.
Explain and encourage participation in war loans.
Teach suitable lines of agriculture for women.
Buy seeds, plants and garden implements co-operatively.
Take care of the children of women workers on the land.
Co-operate with national organizations for enlisting help in war time.
Extend a welcome to those sufferers from the war who are trying new ways of living in country places.

MATERNITY GRANTS IN SASKATCHEWAN.

Through the Saskatchewan Bureau of Public Health, financial aid to the extent of $25 is given in maternity cases in isolated country districts to persons who without such aid would be unable to engage medical assistance and purchase necessary supplies.

HOME CONVENIENCES A FEATURE OF "BETTER FARMING" TRAIN.

A feature of particular interest to women in connection with the Better Farming Special commencing a tour through Western Ontario on January 8, will be a demonstration of household conveniences and labor-saving devices. Small models of septic tanks, sewage disposal systems, water supply systems, vacuum cleaner, dish washers, electric appliances, scrubbing truck, bread mixers, etc., will be shown and operated for visitors.

ONE INSTITUTE'S RECORD.

The Women's Institute at Ayr, Ontario, publishes an annual statement,—a practical application of business methods. In money and goods contributed in 1916 this statement shows:

To Red Cross	$ 704.80
To Soldiers	238.25
To Belgian Relief	405.95
To Secours National	434.10
To Ontario Relief	243.55
To Ayr Relief	20.35

One of Miss Millar's classes in dairying at the O.A.C.

Attractive Styles for Winter Sewing

Simple and Fetching Designs For Women's and Children's Clothes.

One-piece dress giving the appearance of a long coat. White satin for collar and cuffs, and fur trimming are very popular.

MOST of the newest dresses are made up after the pleated models, having a yoke and deep collar, and falling in one-inch pleats either flat or box, straight from the bust to the hem, with no catch whatever at the waist unless it be in an underarm inset. A narrow silk or beaded cord, or ribbon velvet girdle is tied loosely at the waist with long end hanging at the centre front or at one side. This design demands a slightly longer skirt than has been worn for the past couple of seasons, a two-inch sweep being all that is allowed in some cases.

The other popular cuts, that is, Russian effects, nip in waists with very full skirts and overskirts. Plain dark colors prevail, and combinations of serge and satin, velvet and satin, and satin and Georgette are very good. Whatever of the prevailing styles or colors we choose, however, the one piece dress with wide deep collar of white is both smart and practical. Where either of the cuts mentioned are not becoming the tight belted model shown here will find a place. The fur trimming and white satin for collar and cuffs are in great favor.

Styles for children's frocks and coats are fast becoming more decided. These are easily adaptable for children since the straight lines have become so prominent. The little dresses are just miniatures of the mothers' gowns. Serge is quite as popular for the one as the other. and serge, corduroy and velveteen, sometimes in combination with plaid silks, make up snug little winter dresses. The trimmings

One of the richest models in seal with luxuriant sable trimming and sable muff.

"ROCKFAST" DRILL

"Made in Canada"

For Active Canadian Workmen and Live Canadian Boys

When you make a man's working shirt, or a blouse or pair of knickers for your boy, out of "ROCKFAST" DRILL, you have a garment that will stand almost anything. Without being stiff or too heavy, it is wonderfully strong and durable—close and even in weave—free from flaws and weak spots. It is the best and most satisfactory material you can get for these purposes.

Our "Rockfast" Drill, "Steelclad" Galatea and Romper Cloth make up a complete line of service fabrics for every member of the family. Being made in Canada, and paying no duty, they give you the greatest value for your money.

Dominion Textile Co.
Limited

106 St. James Street, Montreal

Sales Office at Toronto and Winnipeg

Manufacturers of

Organdies, Challies, Delaines, Crepes Ducks, Galateas, Kimona Flannels, Curtain Scrims, Drills, Art Ticking, White and Grey Cambrics, Sheeting, Longcloth, Towels, Ducks, Diaper Cloth, Pillow Cases, Sheets, Cotton Blankets, Bed Spreads.

Spare Time

MAY MEAN DOLLARS TO YOU

IF an extra $5.00 or $10.00 a week interests you and you have two or three hours a day that you can spare, let us tell you how that much time can be turned into money. The more time you have the better the pay. We'll buy all you have and pay cash for it.

We need bright, active, hustling young men and women as district representatives. We will within the next month make hundreds of appointments—why not write at once and *secure* your district. If you are looking for an increase in wages, to take care of your many extra summer needs—our plan provides the money for them without interfering in the least with your regular duties.

Recently, here in Toronto, one young man earned $30 in one week. He devoted an average of four hours each day to looking after our subscription business. Would an income like this interest you? Write us to-day; we will gladly send you full particulars concerning the plan without obligating you in the least—simply say, "Show me how to turn my spare time into money."

Address

The MacLean Publishing Co.,
Limited

Dept. F.M. TORONTO Canada

Taffeta skirt with hip length yolk, the lower part shirred on with deep heading.

Attractive styles in outer garments for the little tots.

Smart Norfolk suit for small boy.

used for grown-ups too are duplicated on the small dresses, especially cording, wool embroidery, and fancy stitching. Fur, however, is confined to coat trimming.

Now that the rush of the holiday season is over many mothers will begin planning the little folks' spring sewing. Little boys' wash suits show considerably more smartness than in previous years. The materials used are about the same as usual—twills, repps, piques, Palm Beach and denim—but the styles show a little more care in the working out. Stripes, checks and plain colors are used and more call comes for all white than before. Just a patch or saddle-bag pocket added to one of the old styles, or a new combination of materials gives the new smartness. One neat little suit of white repp is made in real Norfolk style, which is new for the very small boy. Some small plaids have white collar, vestee and cuffs. Another model has a white twill jacket with striped collar, cuffs and trousers.

The delight of the small school girl will be one of the wool sports sets consisting of sweater-coat, cap, scarf, and muff, especially if it be made up in bright colors as most of them are.

Three styles of the new basque blouse. The newest thing in outing sets.

New models for girls' dresses.

In women's wear the separate waist and skirt are being worn a great deal, a fashion that is both economical and which makes it possible for a woman to have a smart appearance for all occasions without wearing out her best dresses. The materials for these skirts are mostly fine fancy serges in stripes or plaids, made with inverted or box pleats and often with saddle-bag pockets. Striped, plaid or check taffetas, or plain colored velvet are used for more dressy wear. One model which is very popular is made with a fitted hip-length yoke, the lower part of the skirt being shirred on with a deep heading. The heading may be lined with contrasting materials.

THE MONTH'S RECIPES

BEEF STEW WITH STEAMED DUMPLINGS.

2 to 3 lbs. meat
2 cups potatoes (cut)
1 onion, sliced
½ cup turnip
½ cup carrot
Boiling water
About 2 tablespoons flour
Salt
Pepper

Cut the meat in two-inch cubes, sprinkle with salt and pepper, dredge with flour. Cut some of the fat in pieces and try out in the frying pan. Put the meat in the hot pan and stir until the surface is browned. Remove to the kettle, rinse out the frying pan with boiling water, pour over the meat and add enough more boiling water to cover. Boil five minutes, then simmer until the meat is tender, about three hours. Add the carrot, turnip, onion, salt and pepper the last hour of cooking, the potatoes the last twenty minutes. Remove the bones and skim if there is too much fat. Thicken with flour, about one tablespoon to a cup of liquid. Pour into a deep, hot platter and surround with dumplings.

STEAMED DUMPLINGS

2 cups flour.
4 teaspoons baking powder
½ teaspoon salt
2 teaspoons butter
¾ cup milk

Mix and sift the dry ingredients. Work in the butter with the tips of the fingers. Add milk gradually, toss on a floured board, and roll out ½ inch thick. Cut with a biscuit cutter, place closely in a buttered steamer and steam 12 to 15 minutes.

JELLIED TENDERLOIN

2 lbs. tenderloin
1½ teaspoons salt
1½ tablespoons powdered gelatine
1 sprig celery
Pepper

Remove fat from tenderloin, place in kettle, sprinkle with salt and pepper. Cover with boiling water and cook slowly until meat is tender, about 1¼ hours. Remove the meat and pack into a mould. Add enough water to the juice to make 1½ cups. Dissolve gelatine in the water, boil and strain over the meat. Put in cold place for 3 or 4 hours. Turn on a platter and garnish with parsley or celery.

PARSNIP CROQUETTES

Boil parsnips, drain and mash. Shape with a spoon into small cakes, roll in flour, and brown in a buttered frying pan. The browning gives quite a new flavor.

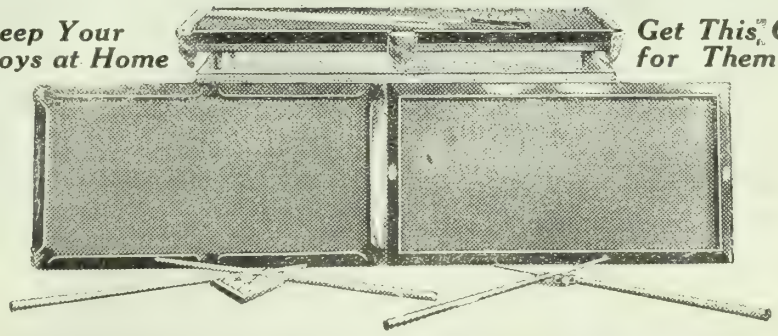
POTATO CAKES

Moisten cold mashed potatoes slightly with milk, and mix in a little flour until they can be handled on a floured board. Knead in more flour until the mixture is quite stiff and can be rolled out with a floured rolling pin, and cut in rounds with a biscuit cutter. Fry in a greased frying pan until well browned.

Continued on page 61

FREE ON REQUEST—Set of beautiful Art Postcards (PURITY GIRLS). Mail us postcard to-day—Dept. C, WESTERN CANADA FLOUR MILLS CO., Limited—Head Office, Toronto.

Keep Your Boys at Home ***Get This Game for Them***



THIS WELL BUILT BILLIARD BOARD AT MODERATE PRICE

will afford relaxation and recreation after the strain of a busy day. Billiards or Parlor Pool are scientific games that require skill and alertness. These games should be enjoyed in every home.

We offer a well-built board at a very moderate price—a high grade billiard board with a quality of material and workmanship equal to that put in the Large Billiard tables. It is correct and true and full of life. Every detail has received careful attention.

It is easy for everybody to have this high class game of skill right at home. Write for full particulars and see for yourself how well you can manage to get it.

The Schultz Bros. Company, Limited, Brantford, Ontario

"CHALLENGE" COLLARS

The Acme of Comfort
is assured to every wearer of
"CHALLENGE"
collars and cuffs
(Made in Canada)

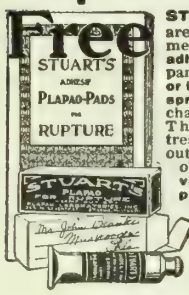
They have the same dull finish, texture and fit as the best Linen collar, and won't wilt or crack. "Challenge" Collars can be cleaned with a rub from a wet cloth. Always smart, always dressy. If your dealer doesn't sell "Challenge" Brand, send us 25c for collar, or 50c for pair of cuffs. You'll be delighted.

New Style Book Sent Free on Request.

The Arlington Co. of Canada Limited
54-56 Fraser Ave., Toronto.

WATERPROOF

Stop Using a Truss



STUART'S PLAPAO-PADS are different from the truss, being medicine applicators made self-adhesive purposely to hold the parts securely in place. No straps or buckles attached—no obnoxious springs. Cannot slip, so cannot chafe or press against the bone. Thousands have successfully treated themselves at home without hindrance from work—most obstinate cases cured. Soft as velvet—easy to apply—inexpensive. Awarded Gold Medal. Process of recovery is natural, so afterwards no further use for trusses. We prove it by sending you Trial of Plapao absolutely free. Write today. PLAPAO CO., Block 627 St. Louis, Mo.

Tobacco Habit Easily Overcome

A New Yorker of wide experience, has written a book telling how the tobacco or snuff habit may be easily and quickly banished in three days with delightful benefit. The author, Edward J. Woods, 7 B. Station E, New York City, will mail his book free on request.

The health improves wonderfully after tobacco craving is conquered. Calmness, tranquil sleep, clear eyes, normal appetite, good digestion, manly vigor, strong memory, and a general gain in efficiency are among the many benefits reported. Get rid of that nervous, irritable feeling; no more need of pipe, cigar, cigarette, snuff or chewing tobacco to pacify morbid desire.

AN EXTRA INCOME

Who in Canada is there WHO DOES NOT NEED AN INCREASE in income to take care of extra needs and vacation expenses? That's where our plan of "spare time profits" shines with popularity. If you are one of the many who would appreciate an opportunity of turning your spare time into Cash profits, we would like to get in touch with you.

Hundreds of men and women in Canada to-day are working our plan to augment their present income and it's providing a liberal amount of extra funds for them. If you would like to join this "thirfty class" of spare times hustlers —write us to-day.

The MacLean Publishing Co., Limited
143-153 University Avenue - TORONTO

January Work on the Farm

JANUARY, 1917.

Piped a tiny voice hard by,
Gay and polite, a cheerful cry,
Chic-chic-a-dee-dee—
Happy to meet you in these places,
Where January brings new faces.

JANUARY, 1917, presents a situation on our Canadian farms such as no previous January has seen. War has cut off our labor. War has enhanced all prices, both of what we have to buy and what we sell. Feed for livestock. We are at our wits' end to know what move to make in any direction, and while we can let things drift for a certain time, a definite program of action has to be made one way or the other. In this crisis, the value of individual energy and initiative was never greater. Necessity spurs us on to new ways; we are forced out of the old ruts and made to do things because they produce results. In that way we can gain some good from these bad days.

It is not unreasonable, then, to turn our attention to savings in every department of farm work. Now is a splendid month in which to begin.

—*Grasmere.*

GET YOUR CATALOGUES.

Assemble at your home office all the catalogues on fruit trees, garden seeds, seed grain, implements, tractors, automobiles, etc., that you contemplate you will need this coming year. Study these. Find out their good points. Do not forget to size up what they do not say as well. Be ready to pay a fair price for a good article. But insist on quality first. Trash is always abominable.

FILLING THE ICE HOUSE.

It depends a great deal on the weather, but if good ice has been made in the lake, pond, or stream, it is good to get at it in January, so as to have this work finished. Pack the ice blocks well with sawdust, with a good layer between the last row and the walls. Use ice tongs in handling and keep the ice as clean as possible.

SPREAD MANURE ON THE SNOW.

It is a good plan to take the manure out to the fields when it is removed from the stables and spread it on the snow where you want it. There is the least loss of ingredients by this method and valuable time is saved in the spring. By no means pile it in small heaps. If you need to get well rotted manure and to kill the weed seeds, place it in a big pile on some poor knoll. Orchards, if manured this month, will be delayed a little in blossoming and so escape the early frost.

WORK IN THE FARM SHOP.

The idea of a farm shop is gaining amongst the better class of farmers. Now that autos, motors, spraying outfits, and dipping plants are necessitating the erection of a separate building for their care, the workshop in connection therewith is quite easy. An old wood stove using hard knots and waste wood can easily be used to make it comfortable.

Putting through the factory is a term the manufacturer uses, that might well apply here. Let all implements and working tools, harness, etc., be put through the farm factory. Take each one and see that it is ready and efficient for business next season. It will pay. Many repairs can be made by the farmer himself. Many a tightened nut, and braced bar will prolong the life and prevent accidents. Paint is a mighty cheap insurance scheme also.

WITH THE SHEEP.

Keep sheep of different ages separate, if best results are to be obtained. To run big, heavy yearlings and two-year-olds with lambs is wrong. At Grasmere, I am running the ewe lambs with the aged ewes and feeding them a little better than the others.

The man with good sheep cannot very well go far astray on his investment.

Alfalfa and clover hay are ideal feeds for the sheep this month.

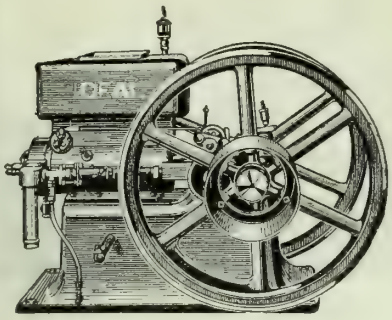
A turnip a day will not hurt the ewes if on dry feeds. Where alfalfa is fed roots are not so necessary.

Take the rams out of the flocks now for a bunt from one may cause serious losses among the ewes.

The International at Chicago found all the sheepmen optimistic as to the future. Nevertheless, there is no big sheep increases in North America.

The future of your breed rests entirely with you. Are you doing anything to increase its popularity?

Next month will see many hot house lambs arriving. Be prepared by clean pens, and plenty of sunlight, with a good lamb creep



Our Hopper Cooled Design

Get Our Free Catalogue

Get a "Brantford" and Forget About Gasoline

The "Brantford" all-purpose farm engine gives splendid performance on **Coal Oil** or **Naphtha**, and you can absolutely depend upon its operation.

The "Brantford" is doing a fine service in enabling Farmers to cope with their problems without feeling too severely the pinch of the "scarce labor problem." The "Brantford" saves considerable of a farmer's time—it is a big economy in fuel saving and a dandy, dependable worker.

Investigate its merits.

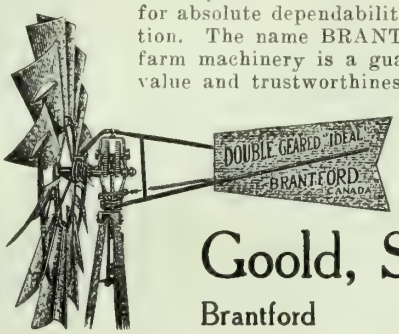
We have Portable, Stationary and Traction Engines that have no equal anywhere for really reliable performance. The Brantford Line is a dependable line. Each Engine is guaranteed to give entire satisfaction

The "BRANTFORD" Windmill

lives up to the "Brantford" reputation for absolute dependability and satisfaction. The name BRANTFORD on any farm machinery is a guarantee of full value and trustworthiness.

"BRANTFORD" Feed Grinders

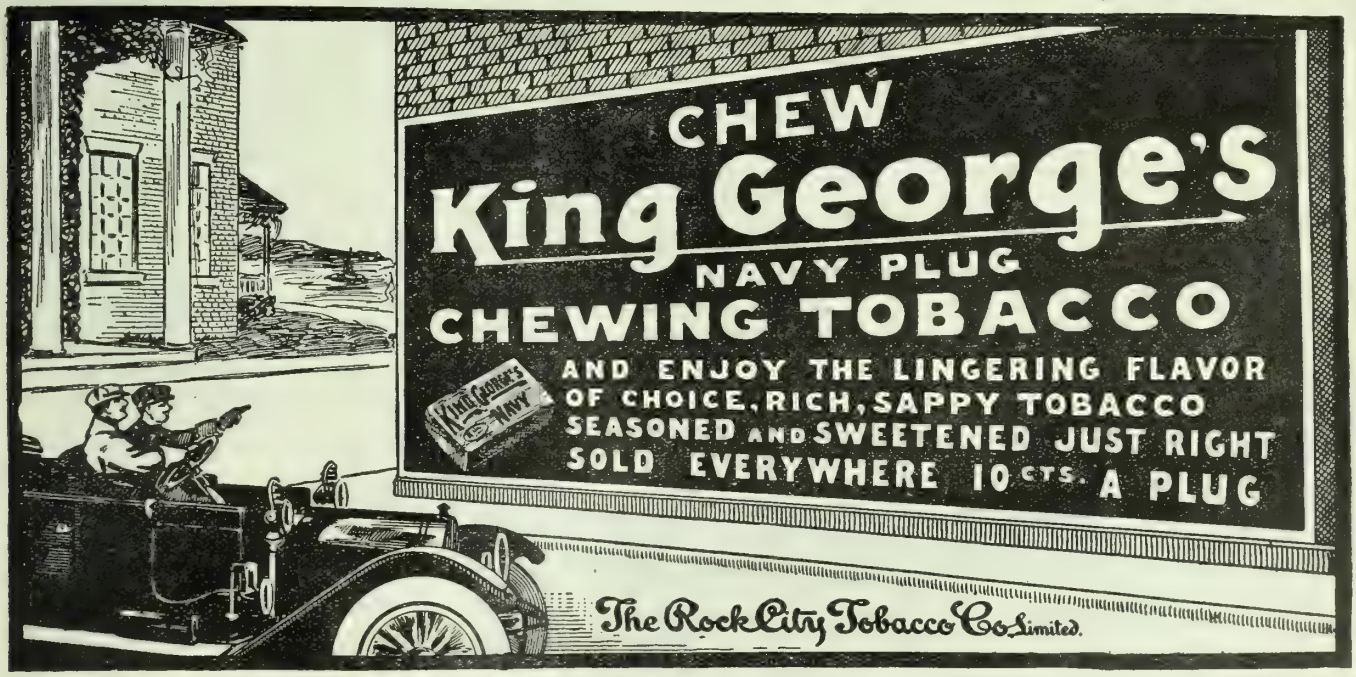
are genuine money savers—they cut down feed expenses and give animals the full value from their feed.



Our catalogue shows a number of labor-saving machines that will help you to better farming. Write for one!

Goold, Shapley & Muir Co., Ltd.

Brantford Winnipeg Regina Calgary



RAW FURS

We are in the market to pay the very best prices.

Honest assortments and prompt returns assured.

WRITE FOR FREE PRICE LIST NOW.

Northern Raw Fur Company, 77 FRONT STREET, EAST TORONTO, ONTARIO

Raw Furs

It will pay you to ship all your furs to a reliable house, where you get full market value. Ask for our price list and shipping instructions.

EDWARD POLLAK & CO.
280 St. Paul St. West, Montreal, P.Q.

made where the lambs can be fed grain separately.

Let the pen doors open to the south so the sheep can run in and out. A sheep needs a lot of exercise.

Send me the story of your sheep experiences. We will pay for the ones we use.

Do not forget the salt, sulphur, and charcoal mixture for the box in the yards, and pure water for the sheep.

AMONG THE HORSES

Not many people wanted to board an extra horse this winter.

Some people believe in keeping the horses' manger full of hay all the time. The principle is wrong.

Colts need a little grain feed to develop properly.

Use bran and molasses meals this winter in the absence of roots.

A pound of hay, 1 lb. of straw and 1 lb. of roots for every 100 pounds of the horse's weight will keep the idle horses nicely.

Exercise daily the in-foal mares, if the best results are to be attained.

Never display temper with horses. They know it and it makes them bad mannered.

J. H. S. Johnstone, author of the *Horse Book*, died recently in Chicago. He was a great admirer of the draft horses. He condemned keeping hay in front of the horses all the time.

Dusty, moldy, or otherwise spoiled hay is about as bad for horses as it well can be.

Millet hay is an abomination to horses, said J. H. S. Johnstone.

A brood mare should have a box stall to herself.

WITH THE DAIRY CATTLE

How have you saved in your feed bills? Let us know that others may be thrifty, too. We need to study thrift.

If milk is purchased partly on its fat basis, poor cows will be weeded out.

The herd should not be less than 6,000 lbs. of an average.

Mixing the ensilage with cut straw and pulped roots at night will make a better feed to-morrow.

About 1½ tons of ice per cow will be needed for your summer use.

The milking machine is making good in many places. It may require some study to make it do its best, but it will do it if the man is competent.

Has the young junior farmer on the farm a young heifer coming on that he is anxious to see develop?

Each breed has its good points. A man does better with a breed he likes.

Keep the stable well ventilated, but without drafts. And above all, be clean.

No dairy farmer's personal dress should suggest grease or the poor house.

Are we to have margarine sold in Canada? What do you think of it?

Why do not more farmers have their cows farrow in the fall, so as to get the big flow of milk in the season of biggest returns?

Your farm should have a name, one that suggests something from its natural appearance is best.

Laura Rose, in her estimable book on Dairying, says that poor, run-down farms are built up by dairying because so much manurial values go back to the land. Butter-making leaves practically all the fertilizing elements on the farm.

An old Scotchman says there are only two things for which a farmer should mortgage his farm. First, to drain his land, and, second, to build good barns for his stock. Is he right?

Disinfect the stalls, gutters, and walls of the stalls with a good spray.

There must be a lot of good comfort in a well-equipped cow stable. Stanchions, litter carriers and water bowls save much labor.

Have you any feeding difficulties? Consult the FARMER'S MAGAZINE service.

Have you any dairy library in your home? The business farmer needs all the good literature he can get. Some farmers take a dozen farm papers.

Send your scrub pure breds to the butcher.

Mr. Ruddick says the total value of dairy products in Canada last year was $200,000,000.

IN THE FRUIT GARDEN

Grapes and other small garden fruits may be pruned this month in the more southerly and farmer sections of the Dominion. Many amateurs neglect their grape vines because they do not know just how to trim them. The advanced methods of the professional grower may not be adopted, and in order to get satisfactory results, the vines should be cut back each season. Let is be remembered that grapes bear on wood of the present growth, which grows from the canes of the previous year. Each year several of the best canes should be selected and cut back to three eyes the rest of the wood being cut away. The crop will be born on the canes from these eyes. When the vines are trained over an arbor or pergola, it is proper to let the main stock or trunk grow until it reaches the top, but the canes which shoot from it should be cut back to the three-eye limit each winter. Then the vine will bear an abundance of fruit, while also providing the desired shade. The grape is a crop which the amateur may be practically sure of after the third year.

Raspberries and blackberries bear on last year's wood, and a good January job is cutting away the old canes. This not only opens up the plants, but also gets rid of insects and fungi which may have found lodgment there, three to six new canes should be grown in each hill.

Currants may also be trimmed this month, but it must be remembered that they bear mostly on wood which is two years old or older. After bearing a few years the old wood should be taken out while two or three shoots should be allowed to grow upon the roots each season. The surplus shoots should also be removed. Gooseberries are trimmed the same way.

Probably a study in cement uses for next Spring may pay.

GREENHOUSE WORK

Greenhouse plants to start from seed this month include the Begonias, Asparagus plumose, Smilax and Dracaena. Gladioli bulbs may be forced in the greenhouse or the window garden, the Christmas poinsettia should be stored up until May after it has finished flowering and should be allowed to remain perfectly dry. Hyacinths, Tulips and other bulbs should be brought into some heat in order to have a succession of blossoms in the house. January is none too early to order the hot-bed sash. The cheapest plan is to order the unpainted and unglazed sash and order the glass by the box, putting it in yourself.

Carnation propagating should be in full swing this month. They root easier now than later when sun is farther north. Sweet peas, carnations, mignonette, etc., can be given light applications of fertilizer with benefit. Sweet peas should be kept well supported as they grow in an upright manner. Keep up fumigation for insects.

Ventilate whenever possible, as fresh air is a great benefit to growing plants. Seed of early asters should be sown Jan. 20. Cabbage and cauliflower for early planting should also be sown. Onion sets can be sown for large early onions.

If you have any space that can be sown for large early onions, after plants are removed to field, April 1 to 15, sow the seed now.

Tone Up For Eggs

A proper ration for winter feeding to stimulate egg-making.

Start now to tone up that egg machine and get it in order for maximum winter egg production, by putting those early hatched pullets and hens to be held over on a good stimulating egg-making ration.

The following ration is stated in parts by weight:

Wheat	20 parts.
Corn	20 parts.
Oats	10 parts.
Bran	10 parts.
Middlings	5 parts.
Linseed Meal	5 parts.
Cut Bone	10 parts.
Beef Scrap	5 parts.

Oyster shell, grit, milk, charcoal, green feed.—C.S.A.

$500 in Two Years

Miss Nicholson, who was lecturing before the Women's Engineering Corps, of London, Ont., and her sister began poultry raising with one hen and eight chickens and with careful study, instruction and industry, cleared $500 in two years. They were so successful that the Macdonald Agriculture College gave them positions on the poultry staff and the Quebec Government employed them to lecture throughout the province.

Poultry prices depend largely on the skill in killing and packing.

Horticulture and Gardening

A GOOD GROWTH PROMOTOR

THERE are several chemical fertilizers which can be used instead of manure for improving the soil around shade, fruit and ornamental trees, says the *Forestry Journal*. One of the best is the following mixture, which should be applied to the soil early in the spring.

1 lb. of nitrate of soda, 5 lbs. of cottonseed meal, 2 lbs. of acid phosphate and 2 lbs. of muriate of potash, the whole to be mixed before spreading. One pound will suffice for one hundred square feet.

$350 PROFIT PER ACRE FROM APPLES

The demonstration orchard conducted in Dundas County, Ontario, consisting of 45 McIntosh Red trees and a half dozen other trees, made a return of $637 this year, with an expense of $201. This shows a net profit of $436 on 1¼ acres or $350 per acre in even figures. This looks like a record for an acre of orchard in Ontario. The percentage of No. 1 fruit was 74.7 and 86.6% was free from scab. The orchard was sprayed 6 times with a power sprayer.

WHAT EFFECT HAS THE MOON?

Moonlight is known to affect the amount of heat in greenhouse fumigations. The Massachussets Agricultural College found by a series of experiments that the same amount of fumigation seriously burned the foliage of plants, on moonlight nights, but did no apparent harm on a dark night.

THE JOY OF THE OPEN

To grow one's own vegetables, to nurse one's own flowers, to rear one's own chickens, to milk one's own cow—and to keep one's own carriage. This is to be personally acquainted with the universe.

This is a quotation from Froude. The experience of all mankind declares that a race of men, sound in soul and limb, can be bred and reared only in the exercise of plow and spade in the free air, with country enjoyment and amusement—never in the foul drains and smoke-black and the eternal clang of machinery.

WHAT ONE FARMER DID WITH GLASS

"My, I wish that we could have this next December."

Mrs. Bronson was just finishing a dish of the finest new green garden peas. They had been cooked and dressed to that exact nicety of flavor that farmers' wives seem to excel all other cooks in achieving and that hot August day they seemed to be just the thing for dinner. Farmer Bronson "Guessed that there might be something worse than such a thing" and said nothing.

After dinner he took a glance at the hot bed that had supplied the plants for the vegetable garden and chuckled a little.

"When you're ready, boys, go to the field. I'll be out with you in half an hour."

And he was as good as his word. But in the meantime what had he accomplished?

He had dug up the two three-by-six hotbed plots, working in a couple of barrow loads of manure and had sown one bed to spinach mixed with seed and lettuce and to some carrots. From this plot this season he has had three fine messes of carrots and the same number of messes of the tenderest spinach, to say nothing of lettuce that was the very ideal for crispness. The second bed was sown to an early-maturing variety of garden peas. The peas have come on beyond all expectation and have yielded away beyond anything hoped for. The family smiled at Dad's experiment, but all join in the laugh when the vegetables are on the table.

With exception of the day of planting, no day has given more than five minutes to the care of the hotbeds, while no part of the farm has yielded more for the comfort of the family at meal time.—A. S. Beemer.

CARE OF GARDEN TOOLS

Now that there is no longer any need to use many of the garden tools, it will be well to look them over in detail and get them ready for use next season. It is good practice to have the hoes and hand tools gathered into one place, sharpened and generally put into good repair. After the tools have been freed from all dirt and rust, it will pay to apply a coat of grease or oil to all metal parts, and to give the wooden parts a coat of paint. Scufflers and drills and weeders should be looked over and all parts put into good working order. Many of our best gardeners have formed the practice of putting the whole equipment "through the shop," as they describe it. This process simply means a thorough repairing that leaves the tool or implement in such a condition that it is fully more serviceable than when it left the manufacturer's hands. Bolts are tightened and straightened, oil holes opened freely, levers are left working readily, cutting parts are sharpened and the implement left so housed that it is instantly available the moment that it is needed.—A.J.K.

FIX UP THE HOT-BED SUPPLIES

Time and vexation will be saved by looking over the sash and frames of the hot-beds. Before we know it the first of March will be here and all the time and thought available will be needed for getting the beds made and the seeds in the ground, to say nothing of the constant watching required to prevent loss from overheating or from freezing. In spite

A PAYING INVESTMENT FOR WINTER MONTHS

It costs you nothing to consult us as to the advantages of having a Greenhouse on the Farm. Write Dept. M., stating your requirements and we will gladly furnish you with costs, etc. All information FREE.

Glass Garden Builders Limited
Kent Building - Toronto
Transportation Building, Montreal
Factory: Georgetown, Ont.

MEN WANTED

All classes of labor, skilled and unskilled. Steady work, good wages. Apply

COLLINGWOOD SHIP-BUILDING COMPANY, LIMITED
COLLINGWOOD - ONTARIO

LONDON "BULL DOG" BATCH MIXER
PAYS FOR ITSELF IN 20 DAYS
Built to last a lifetime.

Send for Catalogue No. 1B
London Concrete Machinery Co.
Dept. B.
London, Ontario
World's Largest Manufacturers of Concrete Machinery

MORE MILK—BETTER MILK
Thorough tests on the Government Experimental Farms show that cows after being dehorned give more milk and better milk. They recommend the KEYSTONE DEHORNER as the most humane and efficient instrument for the purpose. Write for booklet.
R. H. McKENNA, 219 Robert St., Toronto.

RAZOR BLADES SHARPENED
A Sharp Blade Makes Shaving a Joy.
We sharpen Safety Blades and save you money. Satisfaction guaranteed. Gillette, 35c doz. Ever Ready and other single edge blades, 25c doz. Mail your dull blades to
The A. Keen Edge Co., 180 Bathurst St., Toronto, Can.

PEERLESS LAWN FENCING

Enhances Property Values

A BEAUTIFUL lawn fence gives any piece of property that symmetrical, pleasing, orderly appearance that not only affords its owner a keen sense of pleasure and satisfaction while occupying the premises, but when offered for sale, it brings a better price. It's an investment—not an expense.

Peerless Ornamental Fencing

is made of strong, stiff, galvanized wire that will not sag. In addition to galvanizing, every strand is given a coating of zinc enamel paint, thus forming the best possible insurance against rust. Peerless Ornamental Fence is made in several styles. It's easy to erect and holds its shape for years.

Send for free catalog. If interested, ask about our farm and poultry fencing. Agents nearly everywhere. Agents wanted in open territory.

The Banwell-Hoxie Wire Fence Co., Ltd.
Winnipeg, Man. Hamilton, Ont.

THE BEST

YELLOW GLOBE MANGOLD

IS

Kelway's Langport Prizetaker

(See Report of NEW ZEALAND GOVERNMENT EXPERIMENTAL FARM)

67 tons per acre

24 tons per acre MORE than the present most popular Yellow Globe variety

Ask for it from your seedman or, if not stocked, write direct to

KELWAY & SON, *Wholesale Seed Growers* **Langport, Eng.**

Mention Farmer's Magazine

Columbus Discovered America in 1492—

He grasped his Opportunity and opened the Gateway of a new World and to subsequent Fortune to Millions of People—And so, from Generation to Generation untold wealth and Opportunity has been at the command of the Masses!

Have You Discovered Your Opportunity in 1916?

Do you realize that one of the most Profitable, Healthful, Fascinating, and Carefree Professions is that of the Western Farmer!

The Canadian Northern Railway Offers You a Golden Opportunity!

The most fertile Districts in the whole of Western Canada are served by the Lines of the Canadian Northern.

Don't Envy the Farmer—Be One!

For further Particulars of Homesteads open for free entry, also Routes, Fares, etc., consult nearest C.N.R. Agent, or write today for our "Homeseekers' and Settlers' Guide," see what others have done and what you can do in this land of Sunshine, to **General Passenger Dept., 68 King St. E., Toronto, Ont., 226 St. James St., Montreal, Que., or Union Station, Winnipeg, Man.**

CANADIAN NORTHERN

of all that the best of us can do, the glass gets broken and frames get out of repair or refuse to match or to fit properly. And thus arises the necessity of getting all matched up and in thoroughly good ship-shape for actual service. One matter generally neglected, but that always is accompanied by loss, is the matter of painting the sash and the frames. The cost of securing the paint is not a large one, while a good coating of lead and oil will add years to the usefulness of the sash and frames. The gardener will do well to remember that glass and lumber will soon be items that will add considerably to his expense account and must be watched carefully or this additional cost will run away with his profits.

Of course, pains will be taken to secure the best seed available and to test each variety carefully. The last two seasons have not been conducive to the development of the best seed and the gardener will be wise in his day to know the quality of his seed before he loses time and temper and cash by planting seed that is low in germinating power.

Labor promises to be very scarce next spring and summer. For this reason the gardener who would win out will do well to get all done during the winter that he possibly can accomplish. Often the success of a garden depends upon the organization of the previous winter. The modern gardener, like the modern soldier, if he would win, must be considerable of a strategist.—J.M.

Our Farm Short Courses

The short course in agriculture brings the Agricultural College to the very door of the young man on the farm. It is planned to meet the needs of those who wish to learn the newest method in farming. Those who want to know something more about their life business, but who are unable to leave home to take a longer course at the college, will find these short courses to be almost ideal for the work. We recently met a young man at the Fat Stock Show in Toronto, who is showing his calf for the first time. This young man had a good idea of the benefits to be gained by doing something along this line and he expressed his determination of attending the short course in stock raising and thereby increasing his effectiveness in his farm work.

His decision is a wise one and should be emulated by more farm boys throughout the country. Even older men can with advantage attend these courses.

W. J. Stark, the district representative for Peel county, in issuing a very neat folder, giving something of interest for his short courses that are being held in January and February, says that last winter there were over a thousand men in Ontario that attended these short courses which are becoming more and more popular each year. His courses touch upon Animal Husbandry, Dairying, Feeds and Feeding, Veterinary Science, Field Crops, Poultry, Fruit Growing, Vegetable Growing, Soil Cultivation, Fertilizers and Manure, Farm Drainage, Beekeeping, Insect and Plant Diseases, Weeds and Weed Seeds, Bacteriology, Co-operation and Markets, Farm Management, Arithmetic and Business Correspondence, Farm Building and Public Speaking.

Quiet But Binding

Continued from page 20.

The needs of life teem its branches. Luxuries drip from it. Butter and cream, eggs, poultry, pork in a dozen potential fashions, wild and tame ducks, partridge and rabbits, vegetables, berries and fruit —call the roll—they're all here—scratching, grunting, flying, hopping or growing somewhere on the place as mentioned, or at least should be mentioned in Genesis I: 1."

SO many particulars I gave her that this letter would do for an invoice of the place. I discounted the future a little too—described the house I had planned—"six rooms, all on one floor and a private bathroom off our room"—and then with nice discrimination inserted a "Y" before the "our" so cleverly that she could not possibly notice the correction. I promised her a China boy to "wash him dishes and scrub him floors," and described how fetching he would look garbed a la pyjama, mauve silk, like Mrs. Cave-Greene-Cave's boy. It was an exhaustive letter. The weather came in for a half page. I described the church of ship-lap painted green and the decent little white school two miles away with plenty of vacant seats for our—anyway, I told her the educational facilities need cause her no uneasiness.

I wielded a pen dipped in eloquence that night. "Edith, sweetheart," the letter ended, "is this enough? Is love enough to outweigh danger, hardship or loneliness for city people and city things? The case is stated. Your Ladyship will temper justice with mercy and decide. If favorable to the prisoner at the bar telegraph him 'Buy Queenie.' That is a private code. If you can't come, little girl, never mind and don't worry. We farmers can't have everything the same as city chaps."

THE lapsed time between the date of my letter and Edith's wire was four days—that is according to the calendar. But a calendar is not a proper gauge of time. How could it be—a thing of paper and ink entirely lacking in human sympathies? In reality four aeons before the operator in town called me up and announced, "A wire for you." Telegrams out here do not come in neat yellow jackets like city telegrams. I wish they did. It is some satisfaction to snatch an envelope from a boy who pops up from nowhere right in your path. It is considerable relief to the feelings to tear off the end and read the news while the grubby-fisted Jupiter prods with a pencil and demands a signature. But I had acquired the habit of answering the 'phone with alacrity since the day I had written Edith. So the bell was still humming when I reached the instrument.

"Yes, yes," I snapped like a hero of melodrama on the track of "the papers."

"It says—but I think there must be some mistake. I'll have it repeated if—"

"What, what the hell does it say!"

Dear reader, was I justified?

"Buy Queenie, Edith."

"Mr. Operator, I care not if you are

Continued on page 52.

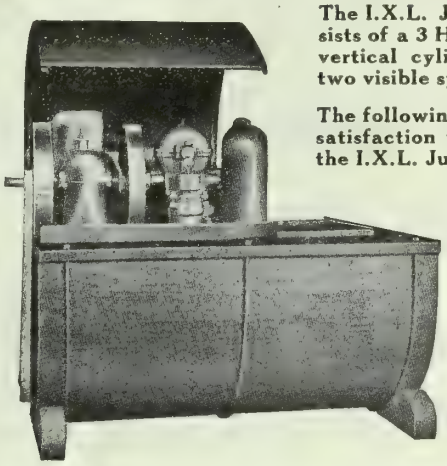
Get a Power Sprayer Now

Each machine will handle 2 lines of hose at 250 lbs. pressure, deliver 6½ gals. mixture a minute and easily apply from 1200 to 1500 gals. a day.

Engine can be instantly released for other POWER PURPOSES, such as sawing wood, etc.

Engine parts interchangeable with "Ford" motor parts. Therefore engine is standard.

I.X.L. JUNIOR POWER SPRAYER



The I.X.L. Junior is made in 3 size tanks. It consists of a 3 H.P. Engine, cypress tank, gear driven vertical cylinder pump, two 25 ft. leads of Hose, two visible spray nozzles, complete in all details.

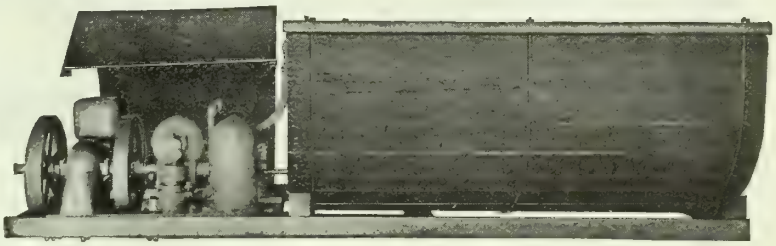
The following is but one of the many expressions of satisfaction that reach us unsolicited from users of the I.X.L. Junior.

Birchbank, B.C., May 30th 1916

We are much pleased with our I.X.L. Sprayer purchased from you last spring. Have sprayed our orchard of 11,000 trees, three times, and have not had to stop 5 minutes. Pressure at 225 lbs.

(Signed)
Birchbrook Orchards

PONTIAC SPECIAL POWER SPRAYER



Weight 650 lbs.

This machine is equipped with the same engine as the I.X.L. and is made with two size tanks.

Here is what a user who has used two Pontiac Machines says:

I consider the Pontiac Sprayer absolutely the best on the market for the money, in fact, it meets all the requirements of Spraying outfits which cost double the price.

W. A. Fraser,
Glenburnie Orchards,
Trenton, Ont.

We have prepared a valuable booklet entitled, "Prize Fruit and Vegetables from your Orchard and Garden," which is free to all farmers, fruit and vegetable growers. Use the coupon and send for your copy to-day.

Canadian Sprayer Co.
Trenton, Ont.

Also Co-Operative Fruit Co., Penticton, B.C., Distributors for Okanagan Valley.

Canadian Sprayer Company, Trenton, Ontario

Kindly send me your free book .....

Name.....

P.O.....

Number of trees in orchard .....

Shoo Fly Plant

Can't beat it—
Drives away all flies

Why be bothered with the little pest.

Secure your seeds for early spring.

Send 15c for trial package, 3 for 40c, postpaid.

J. T. BISHOP
10 Grange Avenue, TORONTO
Mail Dealer and Photographer

More Money

We pay more for **RAW FURS** than any other house in the business.

Get in line with other satisfied shippers. Write for price list W. just issued.

BRITISH RAW FUR COMPANY
28 West Market Street TORONTO

"There's Positive Protection that Costs me nothing."

No need now to wince at every storm that strikes these parts. No need now to fear the safety of my grain and cattle. No need now to have to stand the cost of constant little repairs, nor bear the discomfort of leaking roofs and rotting walls.

PEDLAR'S "PERFECT" SHEET-METAL PRODUCTS

bring me positive protection without the wasteful cost of continual repairs.

See those handsome Pedlar "George" Shingles, two feet square Been on my barn for years. Safe as a solid sheet of steel. Spark-proof, Lightning proof. Cannot leak or warp, split or pull loose. Locks securely and weather-tight on all four sides.

Notice that durable Pedlar Corrugated Iron Siding. No sign of crack or rust after all these years of usage.

Pedlar's "Oshawa" House Shingles bring safety to my home and hearthstone. See how fine and neat they stay. There's permanence and safety too.

Pedlar's Steel Brace "Wardle Patent" Barn gives added roominess and permanence to barn construction. Pedlar's "Perfect" Silo Covers make continued good service a certainty.

Pedlar's "Superior" Barn Ventilators bring air aplenty and with ventilation even and under full control; Pedlar's "Perfect" Garage gives me a safe, dependable covering for my car for years to come; Pedlars "Perfect" TONCAN METAL

Culverts make repairs or replacement unnecessary for years, cannot rust, or rot, or corrode. On all my farm buildings and equipment Pedlar's "Perfect" Sheet Metal Products bring positive protection that pays for their cost in what they save me in repairs and security.

Have you the wrong impression of cost?

Pedlar's Products not only make the cheapest form of construction in the end, but cost less to erect, require less time to put up, and save me much in reduced insurance rates.

Most every barn or building that bursts into flames or rots itself away was owned by a farmer who was going to build with steel some day. You, of course, know the wisdom of building with Pedlar's "Perfect" Sheet Metal Products NOW—before disaster or expence comes upon you.

Whether you are interested in one or all of Pedlar's Products check them off on the coupon attached and we will gladly send you, without delay or obligation, literature and free working plans, which give full information.

Tear off the Coupon and Mail NOW

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THE PEDLAR PEOPLE, Limited
(Established 1861)

Executive Offices and Factories:
OSHAWA, ONTARIO

Branches: Montreal, Ottawa, Toronto, London, Winnipeg, Vancouver

CHECK THE BOOKLETS YOU WANT AND MAIL NOW.

F.M.

THE PEDLAR PEOPLE, Limited
Send me without further obligation the Pedlar Booklets and Plans for erection as checked herewith.

....Pedlar's "George" Barn Shingles
....Pedlar's "Oshawa" House Shingles
.. Pedlar's "Perfect" Corrugated Siding
....Pedlar's "Perfect" Silo Covers
....Pedlar's "Superior" Barn Ventilators
....Pedlar's "Perfect" Garages
....Pedlar's Steel Brace "Wardle Patent" Barn

NAME .....
ADDRESS .....

The Farm Call for Shells

Continued from page 15.

The barn stands on a commanding part of the old K—— farm.

Too often our farm buildings are not erected with a view to appearances, and outlook. Such could not be said of this barn, for it commanded as fine a prospect over the prosperous farms below and out upon the waters of Lake Ontario as one could wish. The small hills to the north and west protected them from the prevailing winter blasts. While the old spruce and maple trees planted by the present owner's father back in the sixties added just that touch of age that glorified the whole setting.

This barn is 120 feet by 60 feet and is made of a combination of steel and wood frame, completely enclosed in steel. The posts, joists, girts and flooring were utilized from the old barns that had been taken down and the pine in some of the old swing beams could not readily be duplicated to-day. There was not a knot to be seen—all clear, straight pine, a reminder of the great wealth of timber that once clothed the whole Iroquois Valley.

A window light is made in one sheet of siding or roofing.

A good ventilator, easy to put on and bird proof. Cost about $5.

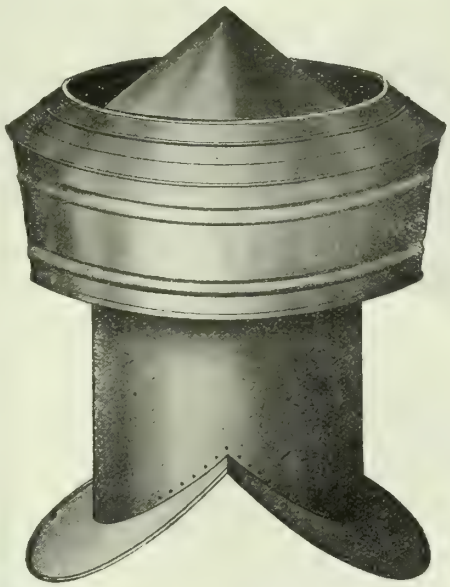
We decided to have a look around and for the sake of other farmers who intend to build I will mention some of the steel ideas found here.

The frame work consisted of steel trusses bolted to wood posts standing on plank sills. Where girders could not be made out of the old material, they were built up by using three to five thicknesses of 2-in. by 10-in. plank. These were spiked every foot or so and various sized spikes used as thickness increased. Cross sills were placed about every 16 feet. The drive floors consisted of tongued and grooved planed hemlock, while the mows were covered tightly with the old boarding carefully taken from the old barns.

The company who erected the barn sent blueprints of the whole structure, with complete directions for the putting up of the building, marking where every post, girt and sill was to be placed.

The plates were made of planks spiked together also. The purlin plates were made of three thicknesses 2 in. by 8 in. set on a slant so as to bring the upper surface parallel with the roof slope.

The rafters were made by 2 in. by 6 in. material, set 3 feet apart. The cornices had a projection of 11 inches from the barn. The fascia was 8 inches deep,



A ventilator that is regulated from the floor. Costs about $7.50.

leaving plenty of room for the eavetroughing. Roof strips instead of sheeting was used. These were made of 1 in. x 6 in.lumber nailed to the rafters every two feet. Corrugated roofing was put on the roof with four skylights and three big ventilators.

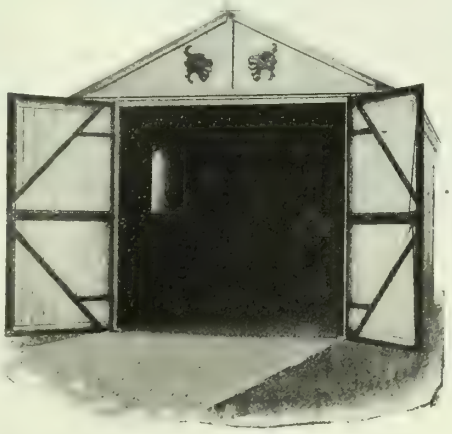
Windows were placed in the granary, and the roof lights made the interior as light as one would wish. The doors were steel-covered wood frame and were fitted on rollers that operated extremely easily. These barn doors are a big improvement over our old method of hinged outward opening doors that nearly killed one to open them on a windy day.

Hay fork tracks were put in as the barn was built—a wise thing indeed, as the whole job was done at once and that much more securely than when these have to be put in afterwards.

A REAL FARM FACTORY.

In the basement, the window frames and doors were also made of steel. These fitted exactly and looked very neat. Farmers generally do not know that these metal covered basement doors can be pur-

Continued on page 53.



There are several metal garages and combinations ones put out for $65, $95 and $110.

Build to last

BEFORE you build or repair your barn or house, let us show you **how much money we can save you.** Here are the "Metallic" fireproof, stormproof and timeproof specialties.

"Eastlake" Galvanized Shingles.
"Empire" Corrugated Iron.
"Metallic" Ceiling and Wall Plates, (for inside use.)
"Metallic" Brick and Rock Face and Clapboard Sidings.
"Acheson" Roof Lights.
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"Empire" Silo Roofs, etc.

We guarantee the best for your money. Our goods have been tried and proven superior for over 30 years.

Write us for booklets and prices today. A post card will do.

Address **Metallic Roofing Co. Limited** MANUFACTURERS Toronto Winnipeg

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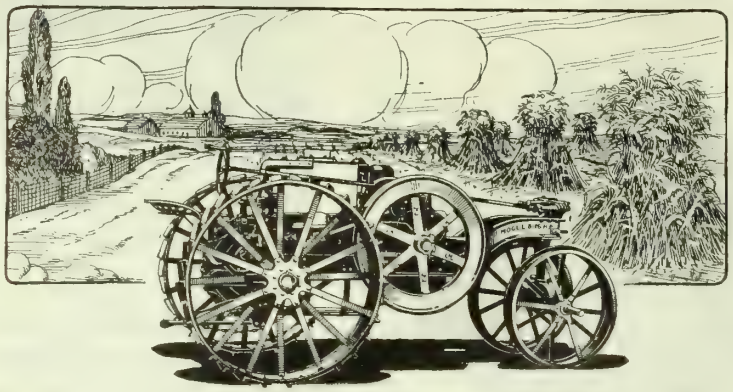
"Metallic"

United States Manufacturers

Have your goods made for you in Canada until your trade here is large enough to warrant your putting up your own plant. An old established manufacturer, now busy on munitions work, with one of the largest and most up-to-date machines and metal-working plants in Canada, would like to undertake the manufacture of hardware, machinery or other metal specialty for the Canadian, British Empire and Allied markets with which preferential trade arrangements are now being planned. Address in the first instance:

MANUFACTURER
c/o
FARMER'S MAGAZINE
TORONTO



The chief value of a Mogul 8-16 kerosene tractor lies in its ability to do the heavy work of seed bed preparation, harvesting, threshing, silo filling, husking and shredding—better, quicker and cheaper than horses can. You will be able to dispose of some horses when you buy your tractor, but even if you don't sell a horse, it's worth while to have a Mogul tractor. It's a cheap, practical insurance against late planting, harvest losses, and delayed marketing. To quote one of our 1915 customers: "It's worth all it cost just to have it on the farm."

A Mogul 8-16 is not an expensive machine, either to own or to use. It costs less than the horses whose work it does; it does good serviceable work at all loads, operating on cheap kerosene. This feature makes it the cheapest of all known farm power, much less expensive than horses, mules or gasoline tractors. With it one man can do fully as much power work as two without it.

Now is the time to write us for catalogues telling about the Mogul line of real kerosene tractors. Get your tractor delivered ahead of the spring rush. Write to us for catalogues now when you think of it. Address the nearest branch house.

International Harvester Co. of Canada, Limited

BRANCH HOUSES

WEST—Brandon, Man.; Calgary, Alta.; Edmonton, Alta.; Estevan, Sask.; Lethbridge, Alta.; N. Battleford, Sask.; Regina, Sask.; Saskatoon, Sask.; Winnipeg, Man.; Yorkton, Sask.

EAST—Hamilton, Ont.; London, Ont.; Montreal, Que.; Ottawa, Ont.; Quebec, Que.; St. John, N.B.

Here's Your Chance

GIVE us a chance to prove to *you* that you can make money by working our plan. Hundreds of men and women in Canada are making splendid salaries by working for us a few hours each day. Why not learn all about it?

If your regular position isn't producing enough money to take care of a few added luxuries—our plan will fit in splendidly, giving you as *much* extra money as your spare time will allow for. The more time you devote to the plan the more money you can make. To learn all about it—drop us a *Post Card,*—back to you by return mail will come full particulars. This will not obligate you in any way. Simply say, "Send me full particulars of your money-making plan."

Name.....

Address.....

THE MACLEAN PUBLISHING CO., LIMITED

143-153 University Avenue, TORONTO, ONTARIO

Quiet But Binding

Continued from page 49.

bearded like the Prophet Elijah, I shall kiss you, when next we meet, for that message! Greetings and farewell."

WHERE do you suppose Edith is now —this minute? In the chicken run showing a visitor her Buff Orpington chicks; four hundred of them she has running around like little brown puff balls on their tooth pick legs. And who do you suppose the visitor is? Our friend and neighbor the 60-pound-to-the-bushel-hair girl, now the schoolmaster's wife, a consummation that Edith as matchmaker takes some pride in.

Well, we had a quiet wedding—quiet but very binding so the minister assured me. The mourners' bench was crowded, and afterwards at the reception when Livingstone attempted to kiss the bride I stepped on his toe so that he lost his place in line; and a little off-side interference kept him from recovering it. Edith's father gave her the mortgage as a wedding present. Considering the fact that he was losing his chief dispenser I allowed her to accept it. So I pay her the interest now. She has bought six white-faced cattle and a rubber-tired buggy with it. Ask any competent judge—the blacksmith, the harness-maker or Owen, the implement dealer — who drives the snappiest outfit in town. If they don't say my wife, may I be hailed out!

The Cave-Greene-Caves come over here quite a good deal. Just the other night they were here playing bridge. When they started home I stood in the door with a light while he tucked the robes about his wife. "You know, old chap,"said he, "it's ripping having your wife as a fourth for bridge."

Over in the firelight I could see my partner, sitting cross-legged in my chair like a soft little idol of luminous outline. With much more enthusiasm than even my liking for bridge warrants, I answered him:

"Yes, isn't it?"

The Birth of Western Agriculture

Continued from page 8.

West. No cattle were taken into the range country of Southern Alberta until the Mounted Police arrived to enforce law and order in that wild land of Indians and American whiskey traders. The first lot of stock to approach the south country was a band of fifty head of cattle and horses which were driven south from Edmonton as far as the Bow River, by Rev. John McDougall and his brother, David. In November, 1871, the two missionaries with their herd reached the Bow River, at a point very near to the present city of Calgary. In 1872, the same two men went to Montana and purchased a hundred head of steers and breeding stock, which were driven north to their ranch on the Bow. That was the beginning of agricultural pursuits in Alberta, where for

Continued on page 60.

The Farm Call for Shells

Continued from page 51.

chased as reasonably as the wooden doors can be made. Of course, steel is a little more expensive just now owing to the war, but when peace comes, there are hundreds of farmers who are waiting for the return of steel to its original prices.

The K——farm was not completed but the pleasure that the owner will have in handling his purebred livestock and grain crops will doubtless be due to several things which were plain to us all. Among these are:—

A saving in labor by having his feeds at the very places needed and by a wire system of chutes, feed and litter carriers, pipes to the feed bins and his power machinery under a section beside the granary. The ease in handling the manure from cement floors is another good thing.

The sanitary features of the thing. Everything is sweet and clean and easily

The implement shed to-day is needed more than ever for house tractors, heavy machinery, oils, spraying material and possibly the auto as well. One like this on cement posts costs about $500.

kept so. There is no soakage in the stalite floors and little room for dust, cobwebs and microbes to linger long.

The lightning safety from such a building is a mighty big thing. It is one of the greatest mistakes that farmers are making to-day—that of using wood shingles on their barns. The old split shingles would last for decades, but the modern sawn shingle on a big barn is much of a fire trap and of not long life at best. We have yet to hear of a steel shingled roof being damaged by lightning. This barn had copper cables from the siding to the ground. Even in a fire inside a steel barn, other buildings, trees, and the house are protected by the fire being kept inside. A recent case near Cobourg may be mentioned where a wood building only 6 feet away from a steel barn that was accidently fired by workmen, was saved from destruction.

The steel barn is a permanent thing. It requires no repairs, paint nor patching doubtless for a generation. But the steel roof as a protection from fire, is alone worth the consideration of every farmer.

The ease of putting up steel buildings, because of the way a farmer can do so much himself, is a feature worth considering. The steel siding sheets and roofing materials make the erection of buildings a play-spell as compared with former days.

We all agreed that the day of steel for farm structures was fast coming because of these cogent reasons.

Harab-Davies FERTILIZERS

Grow Bigger Crops

Restore Fertility to Robbed Soils

The big reason for the growth in the consumption of fertilizers lies in the fact that commercial **fertilizers increase profits wherever properly used. Our soils are still being robbed of their available fertility, and consequently,** in many cases, they are not paying reasonable profits. Harab-Davies fertilizers will help bring these soils back into the money-making class, give crops a good start, hasten maturity, improve quality, and increase yields. Harab-Davies fertilizers pay on rich soils. Do not be satisfied with your present crop, even though yield is big. It can produce bigger and better crops. Be fair to your farm.

Look into the question. Try out available plant food on your best and poorest soils and see for yourself.

A severe car shortage is imminent; we would, therefore, advise buying of fertilizer during January, in order to have your supply on hand when you need it.

Write for bulletins and booklet about Fertilizers. What they are —How to apply them.

Ask us about our agency proposition.

ONTARIO FERTILIZERS LIMITED

20 HARRIS ROAD, WEST TORONTO, ONTARIO

YOUR NEW BARN

will cost you very little more this year than it would have last year, if you build a

STEEL TRUSS BARN

because we co-operate with you, using all materials you have in old barns, or timber you can cut in your own woods. Our lumber lists show what is required. You mark what you can supply. We do the rest

AT LOW COST

because we built more barns last year than ever before, and have based our prices on increased production for this year.

LIGHTNING PROOF

It is a great satisfaction to own a barn proof against lightning and so very convenient to work in. Do not buy any materials until you get our prices and learn how we can help you to the best barn that it is possible to build at a minimum of cost.

The Metal Shingle & Siding Company, Limited

Preston and Montreal

5% Debentures 5%

of the Toronto Mortgage Company, 13 Toronto Street, Toronto, payable at par at any branch of the Standard Bank of Canada or the Bank of British North America.

The Toronto Mortgage Company

issues Debentures, secured by all the Assets of the Company, in any denomination, for from 2 to 5 years, at 5%, payable half-yearly, and they are a legal investment for trust funds. Company's surplus, over all liabilities to public, is $1,296,914.00. Mortgage loans made on improved farms at lowest current rates.

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Investments and Insurance

For the Farmer

THREE PER CENT. ENOUGH FOR MONEY?

By R. J. Miller.

THE savings deposits in Canadian banks on October 1, 1916, reached the huge total of $816,374,171, an increase in 12 months of $123,034,320. Satisfactory as this increase is, illustrating as it does the wonderful prosperity of Canada during a year of world-wide disturbance due to an unparalleled war, it is remarkable that so vast a sum should yield so small a return to its owners.

If the owners of these deposits had had their money invested at 5 per cent., instead of 3 per cent., they would receive for interest in one year $40,818,708, instead of $24,491,225. In other words, $16,327,485 is lost to them, that could have been as safely and as easily earned, had they only known how.

The rate of interest allowed on savings deposits is nominally 3 per cent., but actually it works out at less, being about 2⅞ per cent. This is due to the fact that interest is not paid for the full time the money is deposited, but only for complete calendar months.

The chief reason that the owners of these vast savings realize so little for their money is lack of experience in the investment of money. The fluctuations of the stock markets frighten them, while the worry and expense of mortgages on land or property to those not familiar with this class of security, are wisely avoided by the inexperienced investor.

ONE GOOD FORM OF SECURITY.

One good form of security recognized by bankers and business men, easily converted again into cash if required and yet yielding the satisfactory rate of interest of 5 per cent., is the mortgage corporation debenture. While yielding a higher rate of interest, the money is as safely secured and as simply handled. Over $60,000,000 of these Canadian Mortgage Corporation Debentures are owned in Scotland and the land of shrewd and cautious investors.

"Safety first" is a motto not only for the protection of life and limb, but also for the protection of the savings that add so much to the possibilities and enjoyment of life.

The remarkable power of an increase in the rate of interest is easily seen when we compare the investment of $100 at 3 per cent. and 5 per cent. At half-yearly interest at 3 per cent. per annum, $100 would accumulate in 10 years to $134.68 and at 5 per cent. to $163.86.. The longer the time, the more marked the difference. In 20 years at 3 per cent., the accumulation would reach $181.40 or at 5 per cent. $268.51, and in 25 years at 3 per cent., $210.52, at 5 per cent., $343.71..

It is one of the happy features of financial history in Canada that investors in mortgage debentures have never lost a dollar.

Mortgage corporation debentures, at the present time especially, form a profitable investment for idle money.

Interest at 5 per cent. is paid like the war loan by coupons, in cash by your local bank on the day it is due. The busy or inexperienced investor has no worry in watching values and markets.

QUESTIONS

Farmers with any problems about the investment of money, the reliability of firms, the standing of companies or the best places for money investment, can feel quite free to consult this department. We are in close touch with the staff of The Financial Post, the leading authority on financial matters in Canada, and the wealth of their knowledge will be at our readers' disposal. Letters will be answered privately if desired, or they can be answered in this column.
—Editor.

INVESTING A SMALL LEGACY

C. W. H., Saskatchewan.—I have received a small legacy lately and I am desirous of investing it in sound security that my wife and family will be somewhat provided for in case of my demise. I do not feel justified in using one cent of the above because no labor of my own was instrumental in procuring it. The results of my personal industry are not at present realized, but will be ere many days. I have 26 stacks of wheat awaiting threshing. Am I acting correctly in doing business through ——— & Co., of Toronto?

Answer.—In deciding to invest in sound securities I think you are wise indeed. Too many people are carried away by a windfall. Yet to look upon this legacy as not for your use is a wrong attitude, as you, as a business man, are responsible for its proper use. However, I think the following counsel may contain some ideas. Why not insure your life for a 20-pay or 15-pay life and pay the premiums out of the proceeds of a certain part of the investment? You would then have protection, unquestionably, for your wife and family during the 15 or 20 years you are in active business. Then you will find municipal bonds yielding 5 to 5½%, the war loan, or mortgage debentures at 5% to be secure, and the interest easily collected half yearly at your local bank free of charge.

If you want security, keep away from war stocks, and munitions, and examine carefully all industrial stocks before buying. Another good investment is in a local farm mortgage where you can watch the security.

The house you name is one of the best houses in Toronto.

A FARMER'S INVESTMENT

F.J.L., Ontario.—I am a young man, who likes farming and who has about $5,000 to begin with and I want to invest $1,000 of it in some other security than agriculture in order to have outside interests and to feel the safety of always not having my eggs all in one basket. What would you advise?

Answer.—You are following a wise course and exhibit a breadth of view that augurs well for your future as a business farmer. With your $4,000 you can get nicely started in a small way on a 100-acre farm or a 50-acre as you prefer, paying off $2,000 on your farm and using the other $2,000 to equip, stock and run your farm. Now you will be wise to invest this $1,000 in some good municipal or industrial stocks that will return you 5 or 5½ per cent. on the coupon plan or in the war loans. In these forms the funds are as good as in the bank as far as liquid money goes as they can generally be used as bank security in case of a livestock deal. The desire to keep in touch with other business interests is a wise one.

GOOD INVESTMENTS BETTER

R.J.M., Manitoba.—Kindly let me know of some investment where I can make big money quickly, and at the same time prove reliable and safe.

Answer.—We are at a loss to answer such a question as we know of no bonds or stocks which will coin money for you as you wish and be safe. The big money is generally made by taking risks in which considerably more people lose than win. Our advice is not to chase rainbows.

U.S. WAR BUSINESS

J. Mc.C., New Brunswick.—Would you kindly give me an idea of what the United States has done in the way of war exports. By all accounts the American people seem to be piling up gold in their banks and living pretty well everywhere.

Answer.—According to the New York *Journal of Commerce*, it appears that the total of war exports up to August 31st, 116 were valued at $1,473,000,000, and amounted to 21 per cent. of their entire exports. The following table will carry some information to you:

	Eight Months Ending Aug. 1916	Year 1915
War-munitions:		
Explosives	$459,100,000	$181,778,000
Firearms	19,107,000	12,166,000
Acids	28,124,000	10,053,000
Aeroplanes	3,328,000	5,418,000
Wire	35,566,000	32,598,000
Total	$545,225,000	$242,013,000
War-accessories:		
Automobiles	$79,867,000	$111,180,000
Motor-cycles	2,339,000	2,821,000
Scientific instruments	5,168,000	3,651,000
Gasoline	21,578,000	13,162,000
Total	$108,952,000	$130,814,000
War-supplies:		
Horses and mules	$54,611,000	$118,652,000
Railway cars	19,637,000	11,883,000
Engines	29,166,000	23,792,000
Metal-working mach.	55,316,000	42,037,000
Sheet rails	10,735,000	12,098,000
Boots and shoes	29,821,000	38,585,000
Total	$199,286,000	$247,048,000
Grand total	853,463,000	619,875,000
Grand total munitions		787,238,000
Grand total since Jan. 1, 1915		1,473,338,000
Total exports, 1915		$3,547,480,000
Total 8 months to Aug. 1916		3,435,969,000
Total exports, 1915 and 1916		$6,983,449,000

How to obtain a safe and certain 5% for your savings in place of the usual 3%.

To increase the rate of interest earned by your savings is to increase the savings themselves in a very marked way. Thus, if you save $100 every six months for 10 years, at the end of that time you would have $2,618.33 if invested at 5 per cent., but only $2,347.05 if invested at 3 per cent.

That is, while the yearly amount saved is the same in both cases, the higher rate of interest has added over $271.00 to your capital.

This result can be safely and easily secured by investing in Standard Reliance Mortgage Corporation 5% debentures, which are issued in amounts from $100 to $10,000.

Interest at 5% is paid in cash at your local bank on the day it is due. Principal on the date agreed upon.

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Join the ever-increasing number who have found, in the Policies of The Great-West Life Assurance Company, all that can be desired in profitable Life Insurance.

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WE are operating three plants and selling the output at a time when two-thirds of the brick plants in the Country are shut down. What better proof could there be of the quality and popularity of Milton Brick?

Leading architects tell us that our Rug Brick is the most artistic on the market, and are specifying it wherever possible.

Rug and Pressed Brick in Red, Buff, Green, Brown and many variegated colors. Write us for samples and prices.

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MANUFACTURERS OF
SPRAYING MACHINES

TRENTON, ONTARIO, CANADA

November 3rd, /16.

The Maclean Publishing Co., Ltd.,
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Dear Sirs:-

We must say that we have had splendid results from your advertising, and it has reached some of the best of customers. We are pleased to advise you that we have received for spring delivery an order for 100 machines, (4 carloads of sprayers) from 1 firm, just through 1 ad. from the Farmer's Magazine. The writer cannot speak too highly of your paper, and trust that we will be able to get more such results from your advertising columns.

Yours truly,
THE CANADIAN SPRAYER COMPANY.
Per G. J. White

The above letter shows the buying power of the readers of THE FARMER'S MAGAZINE. If you have anything to offer the better class of Canadian farmers and their families, you will find THE FARMER'S MAGAZINE a valuable publication for your advertising. Send to-day for advertising rates.

THE MACLEAN PUBLISHING CO., LTD., 143 UNIVERSITY AVE., TORONTO.

INSURANCE

BY MACKENZIE HALL.

DEBT has helped many a man to make progress in his business. This seems to be a heresy to many farmers but the fact that a mortgage stared him in the face or a note was coming due, has had the effect of spurring him on to productive employment. Keeping everlastingly at it has made him money and the note has been met. Better still he has learned how he can do things.

Yet life is not certain, and the earning power of the farmer does not continue after his death. Should he be suddenly removed as many are, the mortgage or other indebtedness must be met by the executors generally by selling the property. Had the wife or family means whereby they could pay the mortgage claims they might be able to carry on the business profitably.

The erection of new buildings or the paying off of heirs to the estate, has caused many a mortgage to be placed on the farms of Canada. In time many of these will be paid off as the business grows under the husband's good management.

A good way to provide for the repayment of this loan or the extinction of the mortgage at the owner's demise, is to take out a life insurance policy with same good line company for say, the full amount of the mortgage. A $2,000 policy on the 20-pay-life plan, will cost a man of 30 years about $70 a year. This can be paid in half-yearly instalments.

It will bring in to the widow the full $2,000 at any time should an accident happen to the husband. At the end of the 20 years he has no more payments to make. He can take his accumulated profits and let the principal remain or arrange for an annual payment to him during life.

But I would prefer the endowment plan. Let a young farmer take out an endowment policy for $2,000 at 25, and at the end of 20 years he gets the whole thing in cash, at the same tme having his life covered by the insurance in favor of his family. Here is where a man does not have to die to win. It protects all his investments and enables him to do better work in that he has no worry about an unprotected enterprise. Many business firms find that life insurance is demanded of them by their creditors.

ABOUT PREMIUM PAYMENTS

J.R.M., Manitoba.—You advise farmers to insure their lives in the line companies! What about the payment of the premiums in case of crop failure? Would we have to lose our past payments and be denied any leniency in time?

Answer.—The majority of the insurance companies provide for just such contingencies. After three years you can always borrow enough on the policy to pay more than a year's premium. Moreover, most companies now have standard policies whereby the policy is kept in force as long as there are any profits accruing to that policy. Life insurance is getting down to a pure business and equitable basis and farmers would do well to encourage their sons to take out life insurance policies early in life.

A QUEBEC FIRE INSURANCE

M.O.P., Quebec.—Would you give me the standing of the Provincial Fire Insurance Co. of Canada? I believe it does considerable business in Quebec.

Answer.—According to the report of the Superintendent of Insurance in the Province of Quebec for 1915, the Provincial Fire Insurance Co., with head office in Montreal, has an authorized capital of $1,000,000, of which $118,800 is subscribed, and $79,540 paid up. Total net policies in force cover $6,333,526 of insurance. Excess of assets over liabilities, except capital stock, was $780.63. Total receipts for the year were $62,543.30,and total expenditures, $64,913.81.

HAIL INSURANCE

There is no indication from any quarter that the farmers of the Province of Saskatchewan desire to abandon the co-operative principle in hail insurance, the demands as expressed in dozens of resolutions being passed by various bodies is to the effect that the rates must be raised sufficiently to not only take care of the past season's deficit, but provide absolute protection for the unfortunate victims in the future.—J. E. Paynter.

Margarine

Continued from page 9.

admission of oleo was due to the prospective profiteers out of the business, and that it would be suicidal to farmers to allow this stuff to be admitted to the country.

British agriculture suffered severely upon its first introduction and the present legislation is the result of the compromise.

Feeding the Hungry

Continued from page 16.

The line that divides the years from one another is an imaginary and artificial one. To the thoughtful mind every day of life is solemn and every season is a fit time for reflection.

And yet, because we have at this season of the year to close a volume and begin to number the pages anew, we naturally fall into a serious mood and take occasion to review the past and consider where we stand.

It is a time for making resolutions. On New Year's night, as the dying year passes, countless thousands will swear off. The boozer will raise his trembling hands "Boys! My last drink; watch it go down." The worshipper of My Lady Nicotine will fill his pipe for a last smoke. The dancer will shake his last loose leg on the stroke of "12." The swearer will do his last bit of picturesque word painting at 11.59.

Some of these will be broken. And yet we must not doubt that there are as many New Year resolves kept as there are broken. The New Year is a good time to turn over a new leaf. There are a great many bright, fresh pages turned over on the first day of January that will have a clean record at the end of the year if we will but remember that every day begins a New Year, and our good resolutions must be renewed with each rising sun.

"Though our outward man is decaying, yet our inward man is renewed day by day."

THE CANADIAN BANK OF COMMERCE

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Hundreds of men and women in Canada to-day are working our plan to augment their present income and it's providing a liberal amount of extra funds for them. If you would like to join this "thrifty class" of spare time hustlers—write us to-day.

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I have an important confidential message for you. It will come in a plain envelope. How to conquer the liquor habit in 3 days and make home happy. Wonderful, safe, lasting, reliable, inexpensive method, guaranteed. Write to Edward J. Woods, 7A, Station E, New York, N.Y. Show this to others.

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SEED GOOSE WHEAT

S.B.H., Ontario.—Where can I get some first-class seed goose wheat?

Answer.—I have sent you letter giving a few names. You will find the winners at the Ontario Field Crop Competitions to be good men to whom to write.

DIGGING A MUSKEG DITCH

N.J.B., Alberta.—Where could I get most reliable information as to best method of making a ditch through muskeg one mile long by twelve feet deep?

Answer.—In regard to the ditch 12 feet through muskeg, I do not know of any literature discussing methods as applied to different conditions of soil, depth, etc. However, it seems to me there is one method applicable to this ditch if it is an open ditch, and a different one if it is to be a tile drain. I presume it is open. If so, then I would dig it with horses, plow and scraper, and there would have to be a place left every few rods with sides sloping enough that the horses would walk up out of the ditch with a scraperful of the earth. This would be dumped and the horses come back into the ditch at another sloping place when another scraperful could be taken out, and so on. The distance apart for these places of ingress and egress would be worked out from the practical standpoint. They would be made as close together as might prove desirable.

If, however, it is to be a tile drain, then it would probably be more economical to have the earth shovelled from the lower depths. The man in the bottom would throw the earth up on a landing as high as practicable, and then this man would throw it up to another landing, and a third man on the surface.—W.H.D.

PLOWING A PECULIAR FIELD

W.H.W., Ontario Co., Ont.—I have a field with two right angled corners, and the two ends parallel, 50 *rods long,* 15 *rods wide at one end and* 30 *rods wide at the other end. What is the best way to plow this field to economize time and still be able to gather the lands that are scattered the previous plowing, thus keeping the field level?*

Answer.—As to the most economical method of plowing the field described I would answer as follows: The field should undoubtedly be plowed lengthwise and preferably in land ½ or 2½ rods wide, as these widths will give an exact number of lands in 15 rods, 10 of the former width and 6 of the latter. The most economical way to plow the remaining triangles of 2 1-3 acres is to plow around it the first time finishing in the centre, and then the next time start in the centre, making a little triangle with sides parallel to the three sides of the large triangle, and plow outward. A little care and practice should enable one to start in the centre satisfactorily, as the hollow caused by finishing in the centre at the previous plowing will still be visible.

There may be practical objections to handling the triangle in this way. One is that when starting at the outside and plowing inward the corners are tamped a great deal by constantly turning on the plowed ground. This may be remedied by plowing a "head land" from each corner to the centre. Then again if the land is flat and inclined to be wet it may be desirable to plow in lands on account of surface drainage along the furrows. But so far as economy is concerned the method indicated is the best.—Wm. H. Day.

WHITE PINE BLISTER RUST

L.A.W., Ontario.—Is the white pine blister rust in Canada? and what is its nature?

Answer.—The control of the white pine blister rust is made very necessary by the fact that it is highly destructive to most of the American pines as well as to currants and gooseberries. On the latter the bushes show yellow, mealy masses about the size of a pin head often so abundant that they cover the larger part of the surface of the leaf. Later on in the fall these masses show hairy outgrowths. The feature of this disease is to destroy the growth of the timber.

The Ontario Government has had several inspectors out the whole year trying to study and control this fungus disease. So far it is confined to the Niagara Peninsula, none has been found north of Lake Simcoe. The Ontario Government has a bulletin on this which can be obtained by writing E. J. Zavitz, Parliament Bldgs., Toronto.

MARKET FEES

M.A.C., Ontario.—In the Municipal Act, R.S.O. (1914), *ch.* 43, *sec.* 402, *part* 2, *it says: "No market fee shall be imposed, levied or collected in respect of butter, eggs, poultry, etc., brought to market or upon market place for sale unless a convenient and fit place affording shelter in summer and shelter and reasonable protection from cold in winter to expose them for sale is provided by the corporation." How can Hamilton market charge market fees for standing on open street selling above articles?*

Answer.—The law quoted has absolutely no application to the Hamilton market. All the above says is that a municipality cannot charge market fees unless the

municipality has provided a reasonable building for market purposes. The intention of the Legislature in passing the above is to prevent small municipalities from calling some vacant lot a market and charging market fees for the right to stand on the lot and sell their produce. Hamilton has provided a very good market, one of the best in Canada, and simply because it has more customers than can find first-class accommodation inside the building and some choose to stand on the street and sell their goods rather than take them back home and wait until they can get inside on some other day, is no reason for anyone not paying market fees. If it were otherwise, many selling on the market might doubtlessly wait until the market was filled and then sell on the street to save their market fees. Markets are built by municipalities to accommodate the people of the municipality. Hamilton market is sufficiently large to provide buying accommodation for the people of that city, even if the streets were not used to accommodate the overflow of sellers. It was money of the City of Hamilton that built the market, it is money of the city which keeps the market open, provides police protection to the farmers from having their goods stolen and it is money of the people of Hamilton that buys the goods.—W. E. Lear.

TREAD MILL REPAIRS

F.H.W., Ontario Co., Ont.—Can you inform me where a two-horse tread power which does not bear the maker's name, but is called "Superior" is made and by whom? I am aware this is rather vague, but I am requiring repairs for same and cannot find out who manufactured it, so thought you might know.

Answer.—Regarding the "Superior" Treadmill, the only trade mark of that name that we can trace is made by Heebner & Son, Lansdale, Penn., U.S.A. This may be what you require.

MAY SMALL POTATOES BE USED FOR SEED?

R. K., Ontario.—With potatoes at their present price I am contemplating using the small potatoes for seeding next spring. Would it do at all?

Answer.—Small potatoes can be divided into the following three classes: (1) the best tubers from choice seed planted late; (2) the late formed tubers from strong, robust plants; and (3) the tubers produced from weak plants. The tubers from classes 1 and 2 would likely produce good yields, but those from No. 3 will likely be poor. And that is the danger you run in taking the small seed tubers from your general crop.

BUTTER WON'T COME

Mrs. A.R.K., Ontario. — I would like some advice on butter making. I simply can't get my cream to churn. What temperatures do you advise?

Answer.—While no definite figure can be given for the churning temperature that will apply in different localities and in different seasons of the year, in general we should churn at 53 to 56 in the summer time, and 56 to 65 in winter. Cream which is sweet does not churn as easily as cream which has been ripened. Thin cream churns with considerable difficulty,

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and a higher churning temperature is required than for rich cream. If the churn is turned too slow, the cream simply slides around the sides of the churn, while if it is turned too fast, the cream is carried around the bottom of the churn. The churn should be turned so that the cream can be heard rise and fall with each revolution. For best results churn should never be filled more than half full. A churn with very little cream in it, causes the churning to be slow because the cream simply coats the side of the churn, while the churning will be slow if the churn be too full as there is not room for proper amount of concussion. As cows approach end of period the fat particles in their milk become small and firm. This cream churns with difficulty. Particularly is this the case if the succulence is deficient, such as corn silage or beets in the ration.

Milk from Holstein cows naturally contains smaller fat globules than milk from the other breeds. Hence cream from this milk churns with more difficulty. Your difficulty doubtless lies at some of the above mentioned causes.—R.N.Y.

CESSPOOL AND NEW HOUSE

J.G.D., New Brunswick.—Can you give me some information about building a cesspool. I am building a new house and follow your suggestions in your valuable paper.

Answer.—We are mailing you to-day a copy of a back number of FARMER'S MAGAZINE containing complete directions for making a septic tank. The cess-pool is so strongly condemned by health authorities that we could hardly recommend it, and it would be difficult to get reliable information on the subject. However, we believe the article we refer to will contain the material you want.

CATTLE BREEDING DIFFICULTY

S.J.F., Saskatchewan.—I have a cow 2½ years old and a heifer nearly 2 years old which I am having trouble with in getting them bred. As Shorthorns are scarce here, kindly tell me if there is anything to be done.

Answer.—This question requires a private answer, which has been mailed you, from our expert veterinary adviser. — Grasmere.

FEEDING THE DAIRY COW

J.L.O., Ontario. — I have plenty of mixed clover hay and some alfalfa. What would be the best concentrate mixture to feed? I have barley and oats.

Answer.—If the roughage consists entirely of hay, straw, or corn silage, you can still use home-grown grains, but it will be necessary to use bran, cottonseed meal, or linseed meal also to supply sufficient protein. A good grain mixture in this case would consist of equal parts ground barley, ground oats and oil cake or oil meal.—C.I.B.

Livestock Meetings

Monday—

Feb. 5. 2.00 p.m.—Canadian Swine Breeders' Association, Directors' Meeting.
" " 2.00 p.m.—Canadian Thoroughbred Horse Society, Directors' Meeting.
" " 3.00 p.m.—Canadian Thoroughbred Horse Society, Annual Meeting.
" " 4.00 p.m.—Canadian Pony Society, Directors' Meeting.
" " 7.00 p.m.—Canadian Jersey Cattle Club, Directors' Meeting.
" " 8.00 p.m.—Canadian Swine Breeders' Association, Annual Meeting.
" " 8.00 p.m.—Dominion Shorthorn Breeders' Association, Directors' Meeting.
" " 8.00 p.m.—Canadian Pony Society, Annual Meeting.

Tuesday—

Feb. 6. 9.00 a.m.—Ontario Swine Breeders' Directors' Meeting.
" " 10.00 a.m.—Ontario Swine Breeders' Annual Meeting.
" " 11.00 a.m.—Dominion Shorthorn Breeders' Association, Annual Meeting.
" " 1.00 p.m.—Canadian Jersey Cattle Club, Annual Meeting.
" " 2.00 p.m.—Ontario Berkshire Club.
" " 3.00 p.m.—Ontario Yorkshire Club.
" " 2.00 p.m.—Canadian Standard Bred Horse Society, Directors' Meeting.
" " 4.00 p.m.—Canadian Sheep Breeders' Association, Directors' Meeting.
" " 8.00 p.m.—Canadian Standard Bred Horse Society, Annual Meeting.
" " 8.00 p.m.—Canadian Sheep Breeders' Association, Annual Meeting.

Wednesday—

Feb. 7, 9.00 a.m.—Ontario Sheep Breeders' Association, Directors' Meeting.
" " 10.00 a.m.—Ontario Sheep Breeders' Association, Annual Meeting.
" " 2.00 p.m.—Canadian Hackney Horse Society, Directors' Meeting.
" " 8.00 p.m.—Canadian Hackney Horse Society, Annual Meeting.
" " 8.00 p.m.—Clydesdale Horse Association of Canada, Directors' Meeting.

Thursday—

Feb. 8, 9.30 a.m.—Canadian Shire Horse Association, Directors' Meeting.
" " 10.00 a.m.—Canadian Shire Horse Association, Annual Meeting.
" " 10.30 a.m.—Clydesdale Horse Association of Canada, Annual Meeting.
" " 2.00 p.m.—Canadian Hereford Association, Directors' Meeting.
" " 3.00 p.m.—Canadian Hereford Association, Annual Meeting.
" " 7.30 p.m.—Ontario Horse Breeders' Directors'Meeting.
" " 8.00 p.m.—Ontario Horse Breeders, Annual Meeting.

Friday—

Feb. 9, 9.00 a.m.—Dominion Cattle Breeders' Association, Directors' Meeting.
" " 10.00 a.m.—Dominion Cattle Breeders' Association, Annual Meeting.
" " 10.00 a.m.—Canadian Kennel Club, Directors' Meeting.
" " 2.00 p.m.—Canadian Kennel Club, Annual Meeting.
" " 2.00 p.m.—Canadian Trotting Association, Directors' Meeting.
" " 3.00 p.m.—Canadian Trotting Association, Annual Meeting.

The Birth of Western Agriculture

Continued from page 52.

many years the ranch held undisputed possession of areas which now yield abundant crops of grain.

As the C.P.R. pushed its way across the prairie, the Indians were driven to the north, and ranchers and tillers of the soil soon found the possibilities of the rich western lands. The early 'eighties brought many settlers from the old counties of Ontario to Southern Manitoba and to the eastern parts of Saskatchewan, around Indian Head and Regina. The main line was not finished until 1886, and because there were no branch line railways, the growth of the Northwest Territories was slow during the early 'eighties. It was not to be regretted that the first years following the building of the C.P.R. were not characterized by a great inrush of immigrants to the West. Time was given for the proving of western lands and the best methods of cultivation. One of the early pioneers, who is still living and whose name is honored throughout the West to-day for the service he rendered his country, was Angus McKay, for many years the Superintendent of the Dominion Experimental Farm at Indian Head. He went West in the early 'eighties and settled near Indian Head, beyond the end of the new railway line, which was being extended westward. As a private farmer in those pioneer days, Mr. McKay regularly published the results of his experiments, and consistently and persistently preached to the new settlers of the West the gospel of Summer Fallow. He became known all over Western Canada as the Apostle of the Summer Fallow, and Dr. Oliver says in his book that "Summer Fallow and the C.P.R. laid the economic foundations of Saskatchewan—Angus McKay and William Van Horne." It was on such a basis that Clifford Sifton built, but that of course was about two decades later.

It was not until after 1890 that grain-growing really became a success in the new West, and it was the American settler entering along the newly constructed Soo line between Moose Jaw and North Portal, who gave the big impetus to wheat farming. No one had broken up and cultivated big areas of land until the American farmer arrived in Southeastern Saskatchewan. He grew wheat on fields of two hundred and three hundred acres, and incidentally proved that this extensive cultivation had a great deal to do with the disappearance of disastrous early frosts. Later, the contribution of the Red Fife and the Marquis varieties of seed helped to ensure the wheat harvest every year. The Mormons entered Southern Alberta about 1886, and were the first people to demonstrate the uses of irrigation in that section of the West. Until the end of the century, settlement was confined to the main line of the C.P.R., west to Moose Jaw, and southeast along the Soo line to the international boundary. North of the main line, too, settlement was in evidence in the valley of the Qu-Appelle, and between the two branches of the Saskatchewan River, from Prince Albert to Battleford. The agricultural possibilities of the Canadian West remained no longer in doubt.

Back to the Land---A Woman's Experience

By MARY MORELAND

IN ALMOST all articles dealing with the movement back to the land it is a man who relates his experiences. But why should not a woman if she has the same initiative, the same enduring purpose, succeed on the land as well as a man, and why should she not tell of her struggles and perhaps achievements (even if small) in this direction? Quite probably her methods of dealing with the situation will not at all resemble his. He destructively will demolish the old and build newly. She constructively, will make the best of what she may have.

But to be personal, I am "back on the land" and as at the commencement of my country living I knew absolutely nothing, practically speaking, of methods of farming. I am rapidly extending my knowledge in countless ways. My idea in getting a country home was to supplement a small income, to have healthful work out of doors, to spend peaceful hours under wide skies, while escaping the strenuousness of city life, with its accompanying trivialities, and at the same time to have real genuine "pure food."

To be explicit, a congenial woman friend and I are in peaceful possession of seventeen acres, situated about two miles from a small Ontario city. Our house is a most romantic one, with a delightfully interesting history behind it, boasting of quaint gables, diamond-paned windows, sloping ceilings and three homey fire places. As it is built of logs quite seventy years old our modern friends very firmly decided that we must demolish it, and build a square red brick monstrosity. When we had finally convinced them that we love the old house as it is, without furnace, or electric light, or modern plumbing, they almost gave us up in despair, reserving, however, plenty of condemnation for our future queer actions. We have a three-acre apple orchard which, once the most productive in the township, had been totally neglected for over a decade. And it was to the orchard we first turned our eyes, even before papering and painting the house. We arrived with government bulletins and a great courage, scraped each tree with a currycomb and hoe until the scaly accumulations of years had fallen away, and then we tackled cutting out the dead wood. Without exaggeration, we had immense bonfires for several weeks every evening, and a respectable residue of apple wood logs for the fire places to boot. Poking the branches into the burning mass and whaling the acrid smoke really gave us an intoxicating sense of being free women—for we had done all the sawing and hauling, our two selves, and truly felt independent!

This was done in November and December, the further work of pruning and spraying not being commenced till the following March. In the interval we had put our house in order, struggled with stoves and kept at one almost continuous stunt of shoveling snow off the paths. One of our neighbors came over one day to make her first call and found us on the stone-boat, going to our little woods for cedar logs. Her horror was really genuine, as she said she expected to find us "stuck up city folks." The other day this same neighbor advised us to take a vacation this winter, but to be sure not to tell my friends I had been hoeing like any country girl all summer—but to go and "play lady" for a while. Evidently the dignity and satisfaction of labor is not yet appreciated in the country.

This is our second year on the land, and we really have been too busy. We have been struggling all summer with five acres of vegetables, which is much too much for two "love-lorn weemen." We had a paragon of a hired man this summer who induced us to begin market gardening, but he, after planting, heard his country's call and marched off in khaki, leaving us with rather a large problem. We turned the question over and over and over again, after he had left us, and at last decided our work was in our garden. So, hoes in hand, and hissing "Women Forever," we bravely started to be "truckers." We had had small kitchen gardens before, but our ignorance of gardenology was still colossal. However, we hoed, we weeded on hands and knees and much to the surprise of our neighbors, we scuffled. Of course, one of us held the horse's head while the other guided the implement. But we scuffled—and we like doing it even if it is "man's work." Moreover, we hauled barrels of water, I was standing up on the seat behind the barrel, yelling madly and feeling like a dare-devil circus rider, while our conventional friends sadly shook their heads. The result was that we had the first spinach, beets, peas, potatoes and beans on the local market. You see besides growing the stuff, we also had to sell it. This problem we settled by taking a load into the stores every other morning in the "buggy," and later on, when we had larger quantities, we had two fourteen-year old boys peddle from house to house twice a week.

Of course, we have made lots of mistakes, and it was impossible to kill all the weeds, but not one thing planted was a failure. Certainly a man could have done more steady work, and probably would have harvested a larger crop, but we have gained a valuable experience even if we were dreadfully tired during July and August, and, moreover, we know how profitable some lines of "truck" can be. We want now to find some other women to join us, in order that several acres of garden may be grown beside poultry, and fruit and bees.

We failed most signally, though, when it came to milking. Like Peter McArthur we had a red cow, and during the regime of the hired man, I learned to churn, but when Pat departed we proved inadequate milkers. The garden called and was quite enough for us in the line of original research for one season, and we reluctantly sold the cow—and ever since we have milk in a can from a store in town! Needless to say, some of our neighbors—the dyed-in-the-wool, Ontario pessimist-variety, think us decidedly queer. We actually believe what the professors at the O.A.C. tell us, we can't milk a cow, but we easily take complete charge of our horse, we work in the fields (most surely, not "the thing," they say), and lastly, we are proud to live in an old log house, but we have a baby grand piano! But, as the boys say, "we should worry." We are happy in our glorious freedom, we love the country, if not all the country people, and like to think that in growing our own food (and a surplus) we are doing our bit for the Empire.

The Month's Recipes

Continued from page 43.

SPLIT PEA SOUP

1 cup dried split peas
2½ quarts cold water
1 pint milk
1 onion
3 tablespoons butter 2 tablespoons flour
1½ teaspoons salt
Pepper
2 inch cube fat salt pork

Pick over the peas and soak over night. Drain, add cold water, pork and onion. Simmer 3 or 4 hours or until soft, rub through a sieve. Add butter and flour cooked together, salt and pepper. Dilute with milk, adding more if necessary. Cook until it thickens.

VEGETABLE SOUP

Cook ½ cup white beans until the skins burst. Take 1-3 cup carrot, 1-3 cup turnip, ½ cup celery, 1 small onion, cut in small cubes or slices, put into a saucepan with five tablespoons butter (or half beef dripping may be used) and stir over the fire for ten minutes. Add the vegetables with one quart water, to the beans. Cook for thirty minutes. Add 2½ cups potato, diced, salt and pepper. Cook twenty to thirty minutes and serve.

STEAMED SUET PUDDING

1 cup chopped suet
1 cup molasses
1 cup sour milk
1½ teaspoons soda
1 teaspoon cinnamon
½ teaspoon clove
½ teaspoon mace
½ teaspoon nutmeg
½ teaspoon salt
1¼ cups raisins, seeded
¾ cup currants
2¾ cups flour

Add molasses and sour milk to suit; add 2 cups flour mixed and sifted with soda, salt and spices; add fruit dusted with remaining flour. Turn into buttered dish, cover and steam four hours.

This makes a large pudding, which can be re-steamed for a second or third meal.

BROWN SAUCE

2 tablespoons butter
1 cup brown sugar
2 cups boiling water
2 tablespoons flour
½ grated nutmeg
A little lemon juice or sweet pickle vinegar.

Melt the butter, add the flour, and stir until smooth. Stir in the sugar and continue stirring until it browns. Add the boiling water and stir until smooth. If nutmeg is used for flavoring, it may be added at any time. Vanilla is added after the sauce is removed from the stove.

EGGLESS FRUIT CAKE

2 cups brown sugar
½ cup butter
1½ cups sour milk
½ cup sour cream
2 teaspoons soda
2 cups raisins, seeded and cut
3½ cups flour
1 teaspoon cinnamon
½ teaspoon each of cloves, mace and nutmeg

Bake slowly.

HEALTH BREAD

3 cups bran
1½ cups Graham flour
1 cup white flour
¾ cups molasses
1 teaspoon baking powder
1 teaspoon salt
2 cups sweet milk

Let stand in the pans ½ hour before baking. Bake 1¼ hours in a slow oven.

CANADA

NATIONAL SERVICE

PUBLIC NOTICE is hereby given under the authority of the "War Measures Act, 1914," that during the first week in January, 1917, an inventory will be made by the Post Office Authorities, of every male between the ages of sixteen and sixty-five, residing in Canada.

National Service Cards and addressed envelopes for their return to Ottawa have been placed in the hands of all Postmasters for distribution amongst the persons required to fill in such cards. Every male person of the prescribed ages is required to fill in and return a card enclosed in an envelope within ten days of its receipt.

Any person who fails to receive a card and envelope may obtain the same upon application to the nearest Postmaster.

R. B. BENNETT,
Director General.

Ottawa, 15th December, 1916.

THE NATIONAL SERVICE CARD

1. What is your full name? ..... 2. How old are you? ..... years.

3. Where do you live? Province .....
4. Name of city, town, village or Post Office .....
Street ..... Number .....

5. In what country were you born? .....
6. In what country was your father born? .....
7. In what country was your mother born? .....
8. Were you born a British subject? .....
9. If not, are you naturalized? .....

10. How much time have you lost in last 12 months from sickness? .....
11. Have you full use of your arms? .....
12. Of your legs? ..... 13. Of your sight? .....
14. Of your hearing? .....

15. Which are you—married, single or a widower? .....
16. How many persons besides yourself do you support? .....

17. What are you working at for a living? .....
18. Whom do you work for? .....
19. Have you a trade or profession? ..... 20. If so, what? .....
21. Are you working now? ..... 22. If not, why? .....

23. Would you be willing to change your present work for other necessary work at the same pay during the war? .....
24. Are you willing, if your railway fare is paid, to leave where you now live, and go to some other place in Canada to do such work? .....

GOD SAVE THE KING

Farm Engineering

USE ALL CARE WITH GASOLINE

AS MANY farms are now using gasoline the advice given by the United States National Safety Council will be useful. Gasoline should be kept and used only in small quantities, and used only by experienced employees who realize the danger in using this volatile fluid and know how to handle its safely. Gasoline should be handled in small safety cans, equipped with safety gauze and safety stopper. Gasoline is exceedingly volatile and will vaporize when exposed to the air at any temperature down to 5 below zero. This vapor is nearly three times as heavy as air, and when mixed with the proper quantity of air becomes violently explosive. The vapor will ignite from an open flame, even from a spark of static electricity from a human body, a spark from an emery wheel, or from a sufficiently heated surface. The gasoline vapor, being heavier than air, will naturally seek a lower level, and if confined where there is poor ventilation, will sometimes remain in an explosive condition for months.

THE TRACTOR AND HORSE POWER

E. C. Sauve, of Wisconsin, in replying to an article in the *Breeder's Gazette*, by Prof. Wentworth, says, that when a 30-horsepower engine is placed on wheels for pulling purposes the tractor horsepower is not 30 and is never rated as 30. Tractors are rated in two ways: the engine and the drawbar horsepower. The drawbar horsepower is usually considered as approximately one-half that of the engine horsepower. The remaining engine power is consumed in propelling its own weight. Therefore, one could logically compare a 15 drawbar horsepower tractor with 15 horses.

Engineering and agriculture were never more closely related than they are to-day. Engine power is an absolute necessity on the farm. The tractor has specific work to perform and only to this extent will it replace the horse. Rather than being an enemy to the horse, the tractor is its greatest friend in that the drudgery of the farm is performed by feelingless iron horses. The flesh and blood horse is spared the hardship which has been his in the past.

THE AUTO BATTERY

Many automobile owners do not realize the importance and necessity of giving their starting and lighting batteries proper attention in the winter. The battery is a delicate piece of apparatus, and if mistreated, will very quickly depreciate.

Two things are of prime importance; the battery should be kept fully charged, and it should not be allowed to freeze. A battery when standing idle for any length of time, gradually loses its charge. Therefore, if the car is not run regularly during the winter, in order to keep the battery fully charged, the engine should be run at regular periods to charge, or else the battery should be charged from an outside course of current. This should be done every two or three weeks. The state of charge can be easily read from a specific gravity hydrometer syringe, which can be purchased for about a dollar from an auto supply dealer. A reading of from 1250 to 1300 indicates full charge. The reading is indicated by the number on the hydrometer at the level of the liquid.

If the battery is fully charged, it is not apt to freeze when the temperature is above zero, Fahrenheit. It is best, however, to take the battery from the car and into the house in extremely cold weather. —F.E.A.

LIGHT AND POWER $24 A YEAR

John Gray, a farmer of Durham Co., Ont., and a judge of heavy horses, has his farm buildings wired for electricity and enjoys the current for lighting and power work on the farm. In the house they use an electric iron, and an electric washing machine besides a full complement of lamps. In the barns the power is used to run the pulper, cut feed and pump water and operate the farming mill. The total cost of the service has never gone over $24 a year. The total cost for motor, lamps, wiring and general installation was $165. This power was formerly supplied by the Seymour Power Co., recently purchased by the Hydro.—W.L.S.

PLANTING TREES BY MACHINE

A machine which plants from 10,000 to 15,000 forest seedlings a day has for some time been in use in Wyoming County, N.Y., according to officials of the Forest Service, who are acting as advisers in the work, says *The Scientific American*. Previously the planting has been done by hand at the rate of 1,200 to 1,500 trees each day per man.

The machine was designed to set out cabbage and tomato plants, but works equally well with trees. It is about the size of an ordinary mowing machine and is operated by three men and two horses.

ELECTRICITY ON FARMS

The use of electricity for light and power has become so nearly universal that widespread public recognition was given to this greatest of all modern servants through the observance of America's Electrical Week, December 2nd. to 9th. Every possible effort was made at that time to show the rural people how

AGRICULTURAL INSTRUCTION CARS

THE GRAND TRUNK RAILWAY
in co-operation with the
PROVINCIAL DEPARTMENT OF AGRICULTURE
including the
AGRICULTURAL COLLEGE AT GUELPH
are equipping a couple of baggage cars to be run over the
GRAND TRUNK LINES of Western Ontario from

January 8th to March 14th, inclusive. The exhibits are being prepared by the Staff of the Agricultural College and specialists connected with various Branches of the Department of Agriculture. Farm crops, soils, lightening protection, feeds, fertilizers, dairying, poultry and egg production, weeds, insects and fungus diseases, vegetable growing, household conveniences and labor-saving devices will be included in willthe exhibits.

The Miniature Agricultural College and Experimental Farm on Wheels
will be found of great interest to those who are interested in seed improvement, cultivation, drainage, potato growing, economical feeding of live stock, testing of milk, sanitary methods in handling milk, poultry and egg production, the eradication of weeds, the control of insect pests and fungus diseases, the growing of vegetables for the household, canning of vegetables, water supply and sanitary convenience in the home, labor-saving devices, etc. Both the men and women, as well as the boys and girls, should find much of interest in the cars.

PLACE.	DATE.	HALL.
Elora	Jan. 8	Town Hall
Fergus	Jan. 9	" "
Alma	Jan. 10	Public Hall
Drayton	Jan. 11	Town Hall
Palmerston	Jan. 12	Library Hall
Mt. Forest	Jan. 13	Town Hall
Durham	Jan. 15	" "
Clifford	Jan. 16	" "
Mildmay	Jan. 17	" "
Walkerton	Jan. 18	Hall of Dis. Rep.
Pt. Elgin	Jan. 19	Town Hall
Listowel	Jan. 20	Christ Ch. Hall
Brussels	Jan. 22	Town Hall
Wingham	Jan. 23	Opera Hall
Lucknow	Jan. 24	Town Hall
Ripley	Jan. 25	" "
Clinton	Jan. 26	" "
Seaforth	Jan. 27	
Mitchell	Jan. 29	" "
Shakespeare	Jan. 30	
St. Marys	Jan. 31	" "
Ailsa Craig	Feb. 1	
Forest	Feb. 2	
Blackwell	Feb. 3	

Every Person Welcome. No Charge.

The cars will be open for inspection from 10.30 a.m. to 5.30 p.m. each day, when competent Instructors will be in attendance to answer questions and to explain exhibits. Special lectures for the school children will be given from 10.30 a.m. to 12 noon.

MOVING PICTURES

Evening meetings will be held in the halls indicated, when lectures will be delivered and moving pictures bearing upon agriculture exhibited.

Fare-and-a-third rates will be given on all Grand Trunk Railway trains within a radius of 80 miles, good going the date announced and preceding day, good returning date announced and following day.

List for February 5th to March 14th will appear in a later issue.

For folder giving fuller announcements apply to Geo. A. Putnam, Department of Agriculture, Parliament Buildings, Toronto.

Everybody made welcome to the train and lectures

Wm P. Fitzsimmons Esq.,
Commissioner of Industry, G.T.R. Montreal, P.Q.
H. E. Whittenberger, Esq.,
General Supt., G.T.R., Toronto, Ont.
Dr. G C Creelman,
Pres. Ont. Agricultural College, Guelph, Ontario
Geo. A. Putnam, Esq.
Supt. of Boards of Agriculture, Department of Agriculture, Toronto, Ontario

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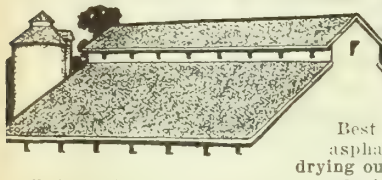

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cheaply, how well and in how many ways electricity is ready to serve them.

A few years ago an undertaking of this kind would have meant little, if anything, to the average farmer, because it was not then known that electricity could be made to serve him as well as the city man. But the last few years has seen a remarkable change, and the farmer has seen by recent events that he can have the same safe, convenient electric light and power service as is enjoyed by his neighbor in the city. And this service will mean more to him than it does to his city friend. On the farm, it will not only brighten every room in the house, but the barn yard, the barn and other places where the farmer's work must frequently be done after dark. To the city man, electric power in his home means electric fans, a vacuum sweeper and perhaps a washing machine. To the farmer it means not only all these things but, in addition, power to do his pumping—running water any time anywhere on the farm—milking, separating, churning, grinding and a hundred other daily tasks. All of this work, much of it non-productive, has required much of his own, his wife's and his children's time in the past, and in many cases it has meant the most tiresome kind of drudgery.—L.K.D.

MANY HOMES POORLY LIGHTED

Every farmer may well consider the proposition of providing some of the modern lights for the farm home. There is no home more in need of the best lights to be had, and yet we find a large majority of the farm homes still lighted by the dim, flickering, and smelly old oil lamps. Good lights not only cheer up the isolated farm home, but they are a great convenience in getting the work done, more especially in the winter, where much of the work has to be done by artificial light.

Electricity, acetylene, and the mineral oils have all been harnessed, so that we now can have equally good lights from any of them. We can put in an extensive plant and light the whole premises up at the touch of a button, or we can put in some of the improved lamps and light up the living rooms as bright as day, so that the whole family can see in any part of the room. The good cheer these modern lights bring is worth the whole cost, to say nothing about the convenience.

Here in our own home we have been using one of the improved kerosene mantle lamps now for a couple of years. We find that it gives as perfect a light as we could ask for, while the cost of running it is cheaper, all things considered, than the old lamps. Any of these modern lamps require a little different handling from the old lamps in order to get the best results, and as the incandescent mantles break easily they must be handled carefully. If the wicks are kept clean and level, and shocks to the mantles avoided, there will be no trouble in operating a lamp indefinitely. It does not matter so much what kind of improved lights one puts in as to get them going, and those who do it will be well repaid before the winter is over. Time is money in these days of war prices and the more hours of work we can get in now, the better service we are giving.—R. E. Duncan.

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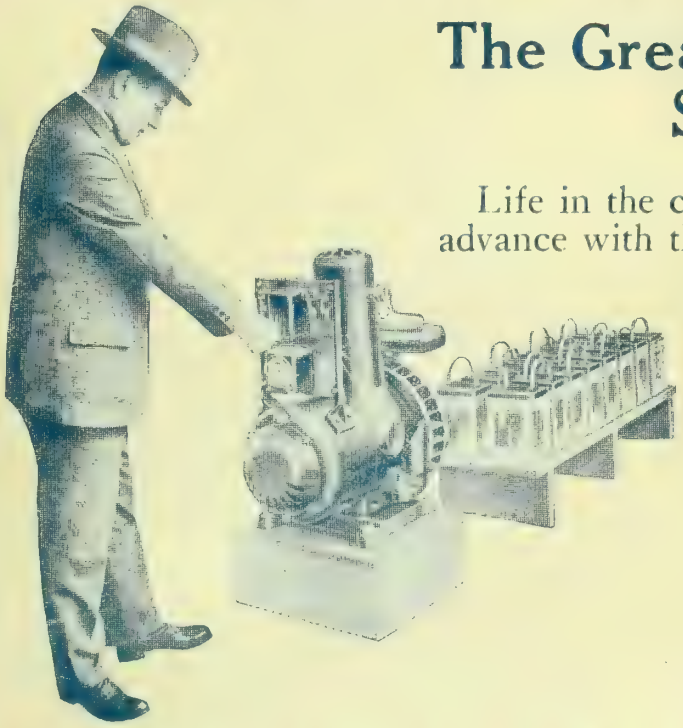

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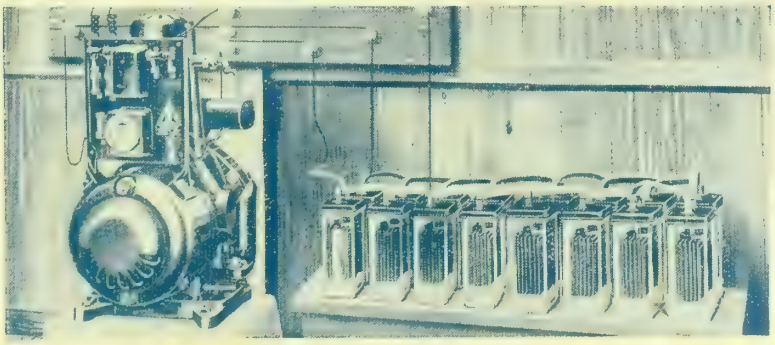

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F. M. CHAPMAN

Pres. Wood—The Man From Missouri
NORMAN LAMBERT

The Exceptional Child
MISS E. M. CHAPMAN

Stable Equipment and Construction
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DEPARTMENTS

The Fruitgrower
The Poultry Yard
The Business of Dairying
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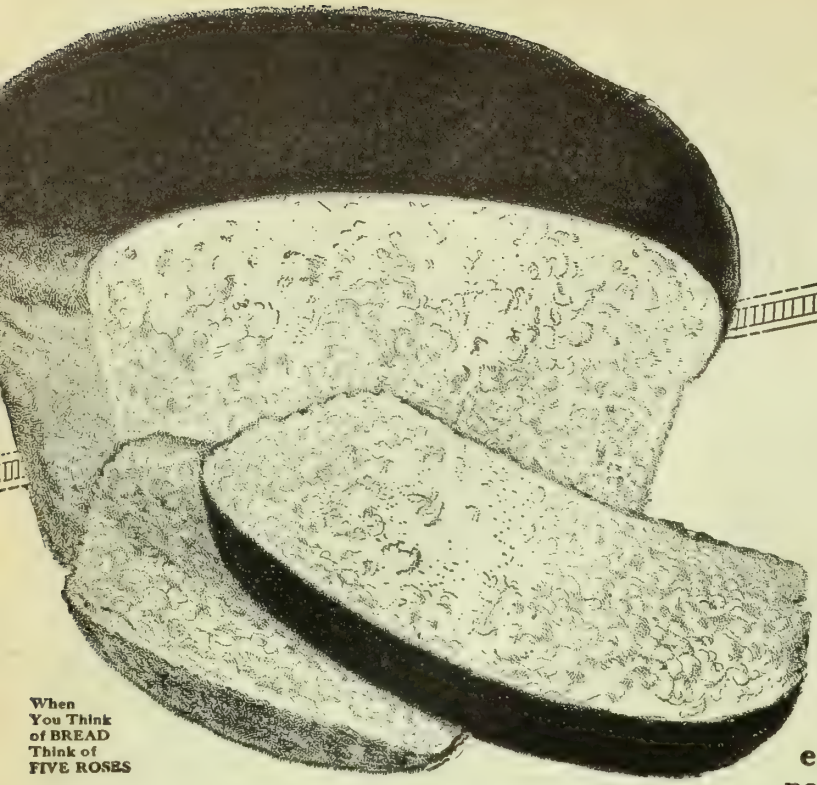

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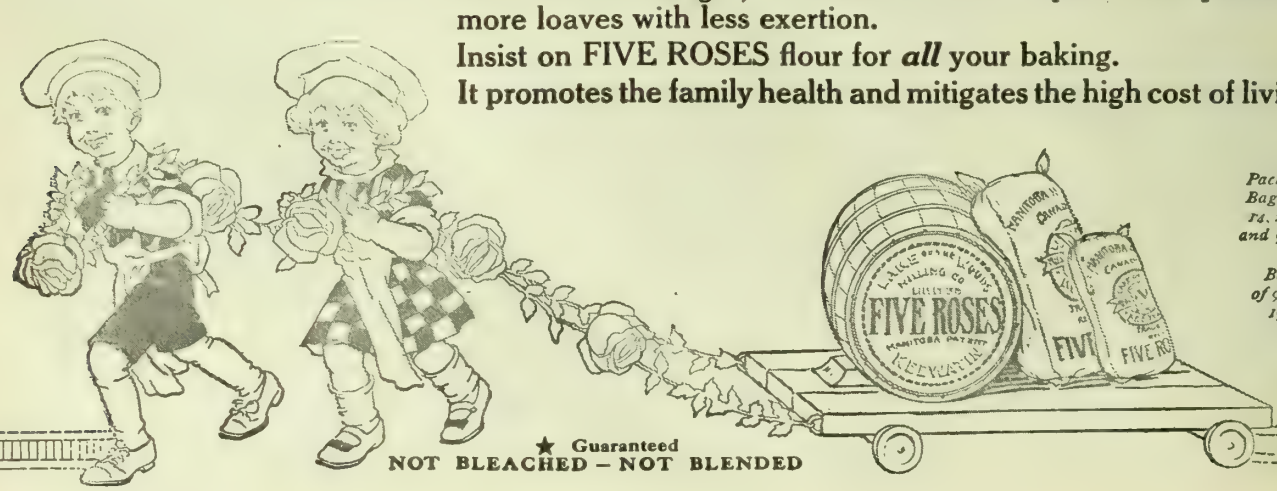

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The Farmer's Magazine

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FEBRUARY, 1917

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The FARMER'S MAGAZINE

Volume X TORONTO, FEBRUARY, 1917 Number 4

COMMENT AND REFERENCE

By THE EDITOR

HIRED MEN, MACHINERY AND FERTILIZERS.

FARMERS will require many laborers this season. Already the rural districts are about drained of single men. Many have gone into munition factories and will return with the robin to their old places. Others will be enamored of the new profits and remain away. New sources of supply will have to be looked after. Governments, rightly so, are making enquiry in the United States for labor. It is likely that no farmer will object to hiring a citizen of Uncle Sam, so long as he knows how to expedite the spring work on the Canadian farms. Co-operation of neighbors, introduction of labor-saving machinery at once, and the liberal use of fertilizers will influence production considerably. Good prices are almost certain to obtain throughout the year.

A DARING TENANT.

A tenant farmer east of Toronto, with a 10-year lease, purchased 6,000 tile and put them in. Last year he bought cottonseed meal and oil cake up to $200. Two 80-rod strips of woven wire fence were purchased to use as temporary fences to be strung from strong end posts set by his men.

This year he is planning to put in a tank with a pumping outfit to his barn. So unusual is this daring procedure that many sage old heads wag their disapproval and expectantly look for an assignee's sale in a few years where they will pick up a cheap implement to rust out in a cluttered barn yard.

But methinks the tenant has some collateral wisdom in his madness. We'll see!

MAKING THE FARM ATTRACTIVE.

Bankers are beginning to waken up to the needs peculiar to agriculture. Loans for the purpose of increasing property find more congenial receptions at head offices. The farmer-be-damned bank manager is passing. The provinces are figuring on rural credits. Even the big financial houses recognize the beneficent influence of the morale of that education. School fairs, district representatives, pig-feeding clubs, sheep competitions and cheque book familiarity are active agents in making farm life more attractive. Business systems, better homes, running water, electric lights, sanitary stables, and interested young people, are the hallmarks of the new order of agriculture in Canada.

THE MIXED FARMER FORTUNATE.

Events of the past season have demonstrated again the wisdom of the mixed farm. A hail storm in Saskatchewan wiped out 200 acres of wheat on a subscriber's farm. He had nothing left. Another one in Manitoba lost his wheat by rust, but had 200 range ewes that kept the farm finances buoyant. The old Eastern farm, at the same time, is turning out $13.50 hogs, $10 cattle, $14 lambs, and 26 cent cheese. Such returns make the farmer independent of accidents and assure his place as a purchasing power in business throughout the year.

REAPERS MUST SOW.

A recent visit to a fertilizer plant where the map of the country was dotted with pins showing their selling agencies, showed how thick these pins stood over the intensive and most productive areas of the provinces. Likewise, an inspection of the sale sheets of cottonseed meal, corn, oil cake and alfalfa told the same story. The men who are making money are wisely spending it. The factory idea for the farm plant makes things move and dollars return to the land worker.

A 5,000-APPLE PLANTING.

A big dairy farm near one of our half million cities planted out an orchard last year of 2,000 apple trees. This year he put in 3,000 more. The demand for good fruit, he believes, will run ahead of production in the near future. The doubling of Canada's population in the near future is as certain as that peace will follow war. Who will be ready for their fruit needs? All orchard work is slow, but persistence never fails of its reward.

ORDER AHEAD.

The difficulties of transportation and the necessity of being ready for seeding at the right time, demand that one plan to have all farm deliveries of fertilizers, lumber, seeds, machinery and other needs, completed at once. It would be wisdom on every farmer's part, to have all such supplies put in before the end of March. Wise planning can overcome much of the disorganization due to war congestion and abnormal transportation conditions.

SOME FACTS FOUND IN THIS ISSUE

Canada's Holsteins are valued at $8,000,000.

Cattle sometimes gives a carcase yield of 68 per cent.

Canada's bacon exports increased about 700% over 1914.

There was a decline of 70,000 sheep in Canada last year.

There are 60,000 fewer milch cows in Canada than in 1915.

Canada's horse exports more than doubled during 1916.

Michigan celery growers apply 600 to 800 lbs. of salt per acre.

J. A. Ruddick estimates Canada's dairy production at $200,000,000.

The Grain Growers' Grain Co. had a profit of $571,000 last year.

Pres. Wood, of the U.F.A., operates a 1600-acre farm at Carstairs.

Canada exported over $2,000,000 of eggs to Great Britain in 1916.

The U. S. has exported over 700,000 horses to the Allies since war began.

The stock of the General Motors Co., of Detroit, has increased 3060% in 2 years.

The American Poultry Association recognizes nearly 60 distinct breeds of fowls.

A co-operative society in Belfast. Ireland, has a half million turnover yearly.

Vancouver shipments of apples to N. S. W. this year brought $2.97 to $3.41 per case.

Fertilizers gave an increase in potatoes from 122 to 162 bushels per acre at Guelph.

The United Farmers of Ontario are meeting in annual convention this month at Toronto.

The bulk of the stock cattle from Winnipeg yards this past season went into Western feed lots.

One correspondent has installed a 12,000-egg incubator and looks for a big baby-chick business this year.

The records of the Surrogate Court of New York show that 85 per cent. of the people leave no estate at all.

For $40 to $75 the farmer's wife can be supplied with a single piece of machinery which will do all the mechanical work of the house.

Canada's Livestock and Feeds

HORSES

HORSES IN CANADA, 1911-1916.

By Provinces and all Canada.	1914.	1915.	1916.
P.E. Island	36,114	36,898	38,562
Nova Scotia	62,581	63,244	64,193
New Brunswick	65,702	65,827	65,169
Quebec	372,009	372,567	332,628
Ontario	904,975	903,527	896,208
Manitoba	316,707	317,847	318,387
Saskatchewan .	609,521	630,062	646,633
Alberta	519,424	544,772	567,543
B. Columbia ...	60,705	61,355	61,312
All Canada	2,947,738	2,996,099	2,990,635

CANADA'S HORSE EXPORTS.

To—	1914	1915	1916
Great Britain	34	7,736	21,833
United States	3,245	2,529	2,857
Other countries	207	149	2,121
Totals	3,486	10,414	26,811

BIGGEST HORSE COUNTRIES.

The largest numbers of horses are found in Russia (30,000,000), United States (23,000,000), and the Argentine (9,420,000).

LIMESTONE MAKES BETTER HORSES.

"You cannot produce the bone and footing in corn-fed horses from the western States that you can in horses matured on oats and hay on the limestone formation of Ontario."—Senator Beith.

CANADIAN CLYDES SUPERIOR.

"There is no better artillery horse than the clean-limbed, active Canadian-bred Clyde."—Col. McCrea.

U.S. EXPORTS OF HORSES.

From the beginning of the war to the end of 1916, the United States exports of horses and mules aggregated $200,000,000 in value. Over 700,000 horses alone were exported to the Allies.

PURE BRED HORSE REGISTRATIONS

Heavy	1914	1915	1916
Clydesdale	2,900	2,555	3,132
Percheron	962	825	1,323
Shire	135	93	93
Belgian	132	76	87
Suffolk	31	35	28
Light			
Hackney	101	128	94
Thorobred	194	219	151
Pony	228	67	69
French Coach	19	10	7
Standard Bred	361	319	382

VALUE OF PURE BREDS.

Dean Rutherford, of Saskatoon, said that Saskatchewan paid $1,380,000 to Manitoba for horses in the years 1914-16. This was possible, he delared, because of the policy of the Manitoba farmers years ago, using pure bred sires from Ontario.

HORSE VALUES

Values for all farm horses have been maintained well during the winter, despite the high price of feeds and the slowing up in war purchases. At auction sales during the fall, prices were quite low, but now that the winter is broken the demand is likely to increase until high prices are looked for again in April and May. The opinion given by Livestock Commissioner John Bright is that the future demand for draft horses will keep the horse business on a healthy basis for some time. There will be few draft two-year and three-year-old horses for sale, or indeed obtainable this spring.

CATTLE

MILCH COWS IN CANADA.

Provinces and all Canada.	1914.	1915.	1916.
P.E. Island	47,317	47,043	46,032
Nova Scotia ...	128,237	128,814	130,141
N. Brunswick...	102,713	101,665	100,221
Quebec	733,476	720,420	639,805
Ontario	1,085,843	1,077,808	1,082,119
Manitoba	156,306	157,494	159,274
Saskatchewan ..	204,624	211,684	218,230
Alberta	179,068	183,974	188,205
B. Columbia....	35,702	37,944	39,318
Canada	2,673,286	2,666,846	2,603,345

BEEF CATTLE AND YOUNG STOCK IN CANADA.

Provinces—	1914.	1915.	1916.
P. E. Island....	61,048	59,503	57,260
Nova Scotia ...	148,269	144,458	140,673
N. Brunswick ..	99,256	96,437	92,222
Quebec	625,958	612,500	535,693
Ontario	970,445	935,606	901,924
Manitoba	251,996	246,603	239,205
Saskatchewan ..	474,436	543,609	556,710
Alberta	633,032	600,000	686,730
B. Columbia....	99,001	100,439	103,101
Canada	3,263,531	3,399,155	3,826,519

THE COW—FEED—MILK—COSTS.

Yearly Pounds of Milk.	Per Year Feed Cost.	Cost of 100 Lbs. Milk.
3,000 and under	$43.93	$1.87
3,000 to 4,000	49.47	1.36
4,000 to 5,000	55.00	1.20
5,000 to 6,000	59.91	1.10
6,000 to 7,000	62.85	.98
7,000 to 8,000	70.38	.94
8,000 and over	80.45	.89

The above tables were obtained by the U.S. Dept. of Agriculture from four farms, involving careful records of 443 cows. These were at prices current before the war. The man with a low yielding cow cannot make money.

REGISTRATIONS DAIRY COWS 4 YEARS

Breed	1913	1914	1915	1916
Holstein	...	...	...	11,053
Ayrshire	3,629	3,496	3,682	4,000
Jersey	1,135	1,215	1,065	1,308
Guernsey	87	154	230	146
Fr. Canadian	96	53	85	268
Totals	...	...	...	16,775

It will be noted that Holstein registrations exceed all others combined. The substantial growth of Ayrshire and Jersey during the past year is gratifying to the breeders of these fine dairy animals.

REGISTRATIONS BEEF CATTLE 4 YEARS.

Breed	1913	1914	1915	1916
Shorthorn	9,173	10,186	11,135	14,333
Hereford	1,820	2,543	2,147	3,207
Aberdeen Angus ..	1,010	1,541	1,255	1,431
Galloway	23	91	63	30
Red Polled	459	102	80	477
Totals	12,485	14,463	14,680	19,478

The Red Polled breeders claim that their cow is a dual purpose animal and cannot be strictly classed as beef. The Shorthorn includes the milking Shorthorns as well. It will be seen that these five breeds have increased their registrations very much during 1916.

CANADA'S CATTLE EXPORTS.

To—	1914	1915	1916
Great Britain	9,778	.....	1,752
United States	206,456	183,652	227,184
Other countries	3,517	2,251	12,624
Totals	219,751	185,903	241,560

SHEEP

SHEEP IN CANADA.

Provinces—	1914.	1915.	1916.
P. E. I.	85,351	86,640	88,797
Nova Scotia ...	211,921	205,542	200,979
N. Brunswick...	121,739	111,026	105,997
Quebec	571,287	554,491	497,711
Ontario	640,416	611,789	589,581
Manitoba	45,303	50,880	51,943
Saskatchewan ..	126,027	133,311	138,350
Alberta	211,001	238,579	245,474
B. C.	45,000	46,404	46,269
Canada	2,058,045	2,038,662	1,965,101

It will be noted that there has been a decline in Canada of about 100,000 sheep in three years, despite the high prices for wool and mutton. It will also be noted that the Prairie Provinces have been increasing slightly, while the chief declines are noted in Quebec and Ontario. The Census and Statistics office estimates the number of sheep in the world in 1914 to be 519,765,335. Australia has the largest number of sheep, while South Africa and India and Russia each hold more sheep than Great Britain, Ireland and Canada combined.

The principal sheep holding countries of the world, in order of precedence, are Australia, Argentina, United States, Russia, South Africa, India, Uruguay, Great Britain, New Zealand and Spain.

CANADA'S SHEEP EXPORTS.

To—	1914	1915	1916
Great Britain	500	.....	.....
United States	17,678	41,642	92,917
Other countries	2,365	1,190	1,561
Totals	20,543	42,832	94,478

WOOL MARKETS.

Markets all over the U.S. are strong for wool. Opinions differ radically on the prices at the conclusion of peace. The entire clip of Australia and New Zealand have been taken over by Great Britain for war purposes. Argentine has placed an export tax of 5% on all wools. As high as 38c was paid in Ontario for unwashed coarse wool in December last.

GETTING READY.

More than $1,000,000 is to be spent in the next few months in an effort to make Denver the greatest sheep market in the world, says the Twentieth Century Farmer.

CHINA WOOL DEMANDS.

The development of China's demand for woolens will help to create steady prices after the war. According to the U.S. counsel there the demand for wool serges and overcoatings is increasing. Mukden demands only lower grades of wool; Tientsin, Hankow and Peking require the better grades in blacks, blues and grays.

ALBERTA'S GROWING WOOL VALUES

Alberta produced approximately 1,870,000 pounds of wool during 1916. Of this amount Southern Alberta is reported to have shipped about 1,318,000 pounds, the district around Calgary 285,000 pounds and the remainder of the province approximately 267,000 pounds. The average price of wool in 1916 at the Calgary sale was 29.9 cents per pound, and at Lethbridge 32.65 cents. The value of the total clip for the province is estimated at $561,000.

During the War Years 1914-1916

HOGS

Markets.	1916.	1915.
Chicago	9,188,224	7,652,071
Kansas City	2,977,933	2,530,730
Omaha	3,166,820	2,642,973
St. Louis	3,067,414	2,591,768
St. Joseph	2,198,751	1,697,842
Sioux City	2,131,112	1,760,818
St. Paul	2,674,640	2,155,201
Denver	466,653	343,653
Ft. Worth	968,024	463,879
Buffalo	1,673,122	1,805,744
Totals	28,512,694	23,644,679

Net increase 4,868,015 (20.58%).

MARKETING WEIGHTS

The average weights of the hogs marketed at the nine leading United States markets during 1916 was 198 lbs., as against 209 lbs. for 1915.

HOGS IN CANADA, 1914-16

Provinces	1914	1915	1916
P.E.I.	41,718	40,792	38,300
Nova Scotia	53,892	53,402	51,928
New Brunswick	73,325	72,533	70,683
Quebec	634,539	632,729	531,303
Ontario	1,553,624	1,469,573	1,404,618
Manitoba	186,276	163,308	130,320
Saskatchewan	454,703	411,324	334,489
Alberta	397,123	229,696	215,202
Br. Columbia	39,031	38,543	37,829
All Canada	3,434,261	3,111,900	2,814,672

This shows a big decrease in all the provinces. The decrease since these figures were compiled is even more marked, as brood sows were marketed late in the fall to escape big feed bills, and careless attention to young litters resulted in a real lessening of porcine heads. It is likely pork prices will remain high for some time.

CANADIAN LIVE HOG EXPORTS, 1914-16

To Country Exported	1914	1915	1916
Great Britain	$.....	$.....	$.....
United States	442,199	3,114,437	67,499
All other Co's.	4,231	2,568	2,211

BACON EXPORTS

Great Britain	$3,717,266	$11,080,424	$25,563,698
United States	41,704	707,334	124,176
All Others	4,225	24,067	22,893

HAM EXPORTS

Great Britain	$ 236,468	$ 1,376,151	$ 1,186,172
United States.	32,570	1,273,810	113,042
All Others	873	2,956	80,132

Besides these exports of hogs and their products, there were equally good increases in the export of lard and pork, showing a big gain in the exports to Great Britain and a big decline in exports to the United States.

TOP PRICES—FIVE MARKETS—JAN. 15, 1917.

Place.	Live Hogs	Sheep	Live Lambs	Live Cattle
Toronto	$13.50	$10.00	$14.75	$10.50
Montreal	13.00	9.00	13.50	10.00
Winnipeg	11.40	9.50	12.25	7.75
Calgary	11.25	10.75	12.00	8.00
Chicago	10.85	10.50	14.30	11.80

POULTRY

EXPORTS OF LIVE POULTRY, 1914-16

To	1914	1915	1916
United States	129,571	334,319	284,145
All Others	2,069	1,115	14,168

EXPORTS OF DRESSED POULTRY

To	1914	1915	1916
Great Britain	$ 514	$ 64,791	$ 40,662
United States	59,425	138,614	59,054
All Others	14,033	9,587	12,162

EXPORTS OF EGGS

To	1914	1915	1916
Great Britain	$.....	$850,330	$2,191,687
United States	19,602	98,271	63,469
All Others	17,548	16,561	18,256

CROP ESTIMATES.

The difference between the estimates of the Saskatchewan crops as made by Ottawa and Regina, for 1916, is illustrated as follows:

Crops.	Regina Bushels	Ottawa Bushels
Wheat	126,857,760	78,151,000
Oats	146,468,565	109,389,000
Barley	10,013,043	7,340,000
Flax	6,060,499	6,543,000

EGGS AND POULTRY PRICES, JAN., 1917.

Places.	Eggs	Old Fowl	Spring Chickens
Toronto	60c	16c	18c
Montreal	60c	14c	16c
Winnipeg	50c	14c	18c
Calgary	75c	18c	20c
Chicago	55c	18c	18c

FEEDS

CANADA'S FARM PRODUCTION, 1915-16.

Crop.	Bushels 1914.	Bushels 1915.	Bushels 1916.
Wheat	116,280,000	376,303,600	159,123,000
Oats	313,078,000	520,103,000	338,469,000
Barley	36,201,000	53,331,300	32,299,000
Rye	2,016,800	2,394,100	2,058,500
Peas	3,362,500	3,478,850	2,166,000
Beans	797,500	723,400	541,400
Buckwheat	8,626,000	7,865,900	6,720,000
Mixed gr'ns	16,382,500	17,523,100	10,323,000
Potatoes	85,672,000	62,604,000	61,128,000
	Tons	Tons	Tons
Hay and clover	10,259,000	10,953,000	14,799,000
Alfalfa	218,360	261,955	261,450
Fodder corn	3,251,480	3,429,870	1,976,700
Sugar beets.	108,600	141,000	71,000

U.S. CORN PRICES IN REVIEW.

1866	$1.00	1874	$0.54
1867	1.12	1875	0.86
1868	1.02	1876	0.49
1869	0.97	1877	0.58
1870	0.94	1878	0.43
1872	0.48	1916	1.13

U.S. CROPS, 1914-16 (000's omitted)

Crops	1914 Bushels	1915 Bushels	1916 Bushels
Wheat	891,017	1,025,801	639,886
Rye	42,779	54,050	47,383
Flaxseed	13,749	14,030	15,459
Oats	1,141,060	1,549,030	1,251,992
Buckwheat	16,881	15,056	11,840
Beans	11,585	10,321	8,846
Hay (tons)	70,071	85,920	89,991
Potatoes	409,921	359,721	285,437
Barley	194,953	228,851	180,927
Corn	2,672,804	2,994,793	2,583,241

SILO CONTENTS FACTS

No. of Cows	Pounds Required Daily	Silage Consumed 180 days —Tons	Size of Silo Needed: Diameter Feet	Height Feet	Capacity Tons	Acreage Required at 15 Ton per Acre
6	240	22	9-10	20-16	22- 22	1.5- 1.5
9	360	33	10-11	24-22	34- 34	2.4- 2.4
13	520	42	10-10	28-30	42- 47	2.8- 3.0
15	600	54	12-14	26-21	55- 55	3.7- 3.7
20	800	72	12-14	32-26	74- 74	5.0- 5.0
25	1000	90	12-14	38-30	94- 91	6.4- 6.1
30	1200	108	14-15	34-31	109-110	7.3- 7.4
35	1400	126	16-14	31-38	125-128	8.4- 8.6
40	1600	144	18-16	29-34	144-143	9.4- 9.3
45	1800	162	18-16	32-38	166-167	11.0-11.1
50	2000	180	18-16	34-40	181-180	12.1-12.0

WORLD'S PRODUCTION OF WHEAT.

Countries.	1916 Provisional figures Bushels.	1915 (Final figures Bushels.	Five years' average 1909-1913 Bushels.
Spain	152,921,000	139,299,000	130,447,000
Great Britain	55,543,000	67,925,000	55,770,000
Ireland	2,711,000	3,237,000	1,597,000
Italy	176,533,000	170,542,000	183,326,000
Norway	305,000	284,000	306,000
Netherlands	4,035,000	5,680,000	4,896,000
Roumania	78,521,000	89,787,000	87,793,000
Russia-in-Europe	595,425,000	744,286,000	626,767,000
Switzerland	4,053,000	3,957,000	3,314,000
Canada	159,123,000	376,304,000	197,118,000
United States	607,577,000	1,011,505,000	686,694,000
India	318,005,000	383,376,000	359,035,000
Japan	24,446,000	25,799,000	24,166,000
Egypt	36,543,000	39,148,000	34,814,000
Tunis	7,165,000	11,023,000	6,230,000
Totals	2,222,906,000	3,072,152,000	2,402,283,000

A Rosy Poultry Outlook

The Day-Old Chick Business is Being Planned for by a Twelve-Thousand-Egg Incubator

By LEWIS N. CLARK

IT HAS been about a year since I last had the pleasure of addressing the readers of THE FARMER'S MAGAZINE, and for most of us in the poultry world it has been a pretty strenuous one. Things looked bad last fall, mighty bad; feed was nearly double the normal price, the production was unusually low on account of the cold, rainy spring, when this year's layers were trying to grow, and even if the price of eggs was high, what good did that do us if (as one heard said on all sides) there weren't any eggs to sell?

I believe the poultrymen of Canada have come through this hard time (as hard certainly as we will ever experience again) with flying colors. It has made us discover what we can do if we have to, and it has shown many of us where the waste was, and how we could bring our farms or our small flocks (as the case might be) up to a greater producing efficiency. The lesson that I have learned is this: it really doesn't matter much what price we have to pay for feed, if we can get a reasonably good egg-production, at even a reasonably good selling price, we can make money at poultry-farming. The main thing, the whole thing, is to get the production. To get the production one must feed generously, of the right kind of feed; one must hatch the pullets at the right time, and above all must have those pullets of a strain that has the heavy-laying and the heavy winter-laying characteristic bred into them. If you attend to these points, the pullets will attend to the rest of it for you. It seemed to me this winter that they realized the fix we were in, and did their very best on that account. I have pullets, both Leghorns and Rocks, that have laid two eggs a day several days this winter, and there are many of both breeds that have not missed more than ten days since Oct. 1st. What more could anyone ask than that?

IT IS THE BUSINESS NOW.

The poultry business holds out greater possibilities to-day, I believe, than ever before in Canada. For one thing we are getting things standardized, there is no longer the element of uncertainty about the whole proposition; we know that under certain conditions, we will get certain results; the day of the heated house and the hen-hatched chick has passed, and the day of the incubator, the trap-nest, and proper management has come to stay.

If the coming season turns out as present indications point, there will be more chicks hatched this year than was dreamed of, in Canada, three years ago. The orders already coming in to all the good breeders of bred-to-lay stock, for hatching eggs, day-old-chicks, and breeding stock, seem to show that there are not enough good breeding birds in Canada to fill all the orders that will be received before the season is over. The day-old chick business is another innovation that, apparently, has come to stay, the desirability of getting chicks already hatched, the trouble and the uncertainty of the hatching being borne by the man that sells them, has appealed very strongly, and I believe that it will, in time, largely take the place of the hatching-egg business. The only large improvement made at "Oldham Farm" this year is a new incubator building, to accommodate a 12000-egg mammoth incubator, which will make it possible to go extensively into the baby-chick business. The building is 66 feet long by 20 feet wide, the cellar having a 6 foot ceiling, 14 windows and the best ventilating devices. There is a brick building above which will be used as an office, packing and shipping room, and killing and picking room. There are large hot-water-heated sprouted oats cabinets in the cellar, and "hospital" accommodation in the building above. The incubator to be installed has some revolutionary improvements, and is, in some ways, as far ahead of the old-time incubators as the incubator is ahead of the hen. There is a turning device whereby a one-third turn, or one-half turn of a crank at one end of the machine, turns every one of 6,000 eggs one-third or one-half way over without the smallest shake or jar, the time necessary being about 5 seconds as compared with at least 3 hours, which it would take to turn, carefully, 6,000 eggs by hand. The eggs are so arranged on slatted trays that to test them a strong light is passed under the trays, and the infertile eggs are picked out, without touching the other eggs. Who says that our "egg-factories" have not as many labor-saving implements as any other modern factory?

Remember that there is room for all the eggs we can produce, and all the chicks, in Canada this year, and if we all get into the game and produce to the utmost of our capacity, we will be doing a good bit toward feeding the world.

Dairy Facts

Brought to Light at the Recent Dairymen's Convention

By W. L. S.

WHAT is the value of Canada's dairy production in a normal year?

It is impossible to secure exact information on this point but Mr. J. A. Ruddick, Dominion Dairy Comissioner, who is the best authority on the subject in Canada, estimates the total at $180,000,000 to $200,000,000.

From 1888 to 1903 our dairy industry showed almost continuous expansion, exports in this line reaching $31,607,000 in the latter year. Following this there was an almost equally continuous decline until 1914 when the value of exports was only $21,193,000.

The greatest relative changes occurred in the case of butter. Between 1889 and 1903 our exports of butter increased from 1,780,000 lbs. to 34,128,000. After that they steadily declined until in 1913 butter exports aggregated only 828,000 lbs. while we actually imported nearly 8,000,000.

We are, however, on the up-grade again now. In the year ending March 31 last our sales of dairy products abroad aggregated $29,673,000 and for the year ending March next, they will, in Mr. Ruddick's opinion, reach $40,000,000. Of course abnormal prices account in large measure for the latter figure but, even after allowing for this, 1917 will undoubtedly prove a record year in Ontario dairying.

Three causes contribute to the expansion now taking place: (1) the stimulus given by high prices; (2) more intelligent breeding and feeding; (3) the extraordinary development in butter-making that has taken place in the Western Provinces.

Let us examine the latter factor first. Only four years ago the Western Provinces imported between sixteen and seventeen million pounds of butter for their own use. Last year they produced a surplus for sale abroad. In 1900 the output of creamery in the four Western Provinces, including British Columbia, was 2,699,802 lbs.; in 1915 over 18,000,000 lbs. were produced. In the same five years the value of all the dairy products of these four Western Provinces increased from $5,228,649 to $36,432,000. Alberta has lead the other Provinces of the West in this matter of dairy expansion, her output jumping from $546,476 in 1901 to $12,500,000 in 1915, her production in creamery butter alone increasing from 407,970 lbs. to 7,376,871.

The high prices ruling for all kinds of foodstuffs constitute, as stated, another factor in the increase in dairy production that has taken place all over Canada. But the most gratifying feature in the case is found in the fact that a great deal of the increase in total output is due to the exercise of greater intelligence in breeding, feeding and selection. The improvement that has occurred in this respect in the last ten years, is estimated by Mr. Ruddick as being equivalent to the addition of 250,000 cows to the dairy herd of Canada. That this is not an exaggerated estimate is sustained by the results of an actual census taken by Mr. G. G. Publow, Chief Dairy Instructor for Eastern Ontario. Three years ago Mr. Publow tabulated the statistics showing the product of all the cows supplying milk to Eastern Ontario cheese factories. Last year he made a like tabulation and the result shows an average increase in the milk output per cow of 375 lbs. in the three years.

But there is abundant room for further improvement. Mr. Ruddick believes that, without any addition to the number of cows in Ontario, the output of the dairy herds of the Province could be expanded to the extent of 25 per cent. representing an addition to the yearly income of ten to fifteen million dollars. In support of his assertion he pointed to what is actu-

Continued on page 28.

A Livestock Survey, 1916-1917

The Past Year Saw a Climax of Prices. Will a Depleted World Keep Prices Up? The Man With a Good Animal is on Safe Ground

By JAMES E. POOLE

A COTERIE of cattlemen who do business on an extensive scale met at the stock and exchange building in Denver about the middle of January. They were unanimously in optimistic mood, but one of them, A. E. deRicqles, remarked: "Gentlemen, our business appears to be in thriving condition, but we should admonish everybody that this is no time for speculation. Counsel your friends to conservatism. It is always the livestock handler who chants a close-to-shore policy, makes the most money and leads the most satisfactory life."

Such advice is timely. Prosperity came to the livestock interest in belated fashion. The European war, which inflated values of stocks and sent cost of breadstuffs and other commodities soaring sky-high, did not affect cattle favorably until well along in 1916. Just a year ago bargain sales were being held at every stock yard on this North American continent, hogs were cheap until midsummer and only sheep were high, due to scarcity and the advance in wool. The latter part of 1916 put the whole industry on a substantial and prosperous basis, however, and at the beginning of 1917 cattle, hogs and sheep were realizing unprecedented prices. That these markets are on a war basis will not be denied; what effect the return of Europe to a peace basis will have is open to conjecture. Financial and commercial leaders fail to agree on the subject. That a period of readjustment will be inevitable is an assertion of the irrefutable variety; its nature and extent is beyond human ability to forecast.

There exists a world-wide shortage of both meats and breadstuffs. Nature has apparently determined to put the civilized world on a semi-famine basis. Every country of surplus food production in both northern and southern hemispheres is delinquent. Argentina has been in the throes of drouth, Australia has been eliminated by the same agency as a contributor to the world's larder and here in North America drouth and depletion have exerted production-repression influence. Internecine feud has put Mexico out of the cattle business, grain-raising has been the chief factor of depletion in Canada, and in the United States, cattle breeding has been materially contracted and the wool and mutton industry depleted until it has no footing east of the Missouri River. Even in the pastoral region west of the 100th meridian liquidation is still in progress. Only in pork production has there been decided increase recently and but for that development North America would have been meat-hungry long before this.

SOME OF POOLE'S POINTS THIS YEAR

Nature has apparently determined to put the civilized world on a semi-famine basis.

The wool and mutton industry has no footing east of the Missouri River.

Washington issues what the trade facetiously calls a guesstimate.

Rainbow chasers at Washington compounded a remedy for high meat prices 5 years ago.

Canada sent 146,000 cattle to U.S. in 1914 but only 137,000 in 1916.

Had Europe been on a peace basis a large volume of export trade would have been done.

The end of cheap livestock has passed.

East of Chicago not enough of cattle and sheep are produced annually to supply New York City.

Three bullocks will be needed in the future to supply the beef yielded by one beast under the old system.

Boston is predicting scoured wool of the 1917 clip will sell at $1.50 per lb.

That 1917 will witness a high set of markets is a safe prediction.

The packers' steal-'em-when-you-get-a-chance system is passing.

Those who are ruminating on the subject of meat supply in an effort to chart the probable future course of the industry are prone to consult the figures. As well resort to astrology for information. So far as the United States, Mexico and South America are concerned there are no statistics on the subject. Washington issues, what the trade facetiously calls a "guesstimate" annually; it is officially designated an "estimate" and is merely a compilation of opinion on the subject. The 1916 guess thus made credited the country with 785 million beef cattle, 727 million dairy cows, 533 million hogs and 216 million sheep, but except by uninformed writers these tabulations are rarely used. Even the movement of line stock as indicated by receipts at central markets, cannot be gauged with any degree of accuracy owing to double counting, due to speculation and forwarding from one market to another.

Last year the seven principal primary points in the United States received 9,320,000 cattle, against 7,963,000 the previous year, but the figures did not indicate new production, as during the foot and mouth period of 1915 cattle by the hundred thousand were moved to the trans-Missouri area for safety. Drouth in 1916 sent them trooping back. Many went from Western Canada through the St. Paul gateway to Montana and the Dakotas in 1915 to return last year. *The marketward movement of hogs is a more accurate registry of production,* as no stock hog trade exists, except in a limited way. Last year these seven markets received 25,400,000 hogs, against 21 million the previous year. Sheep receipts were 11,650,000, against 11,160,000 in 1915, but the increase is more apparent than real as it was due to culling Western flocks of aged ewes, and in 1914 these markets received 13½ million sheep, the industry having been liquidated vigorously through necessity meanwhile. Therefore, in speculating on future livestock markets statistical argument must be discarded.

Leaving European war influences out of the reckoning these factors must be considered in speculation concerning the future.

Domestic industrial activity. If the mechanics and laborers of Canada and the United States are kept continuously busy no serious depression will occur.

Climatic influences. Livestock trade prosperity is impossible without abundance of grass and grain. This is illustrated by the fact that Texas has not been able to take advantage of the present high cattle market by lack of feed, and that thousands of cornbelt feed lots are empty because the corn crop was a partial failure.

Elimination of European demand would undoubtedly affect values adversely, but if domestic industrial activity could be maintained depression would be only

James Hope, Harry Hill, and Charlie Boynton, York County, the members of Western Counties Stock Judging. J. C. Steckley, B.S.A., with them. Dundas Co. won Eastern Counties.

temporary. Assuming that war demand is responsible for an extra $1 per cwt. in the value of cattle hogs and sheep, that depreciation could be effected and the result would not be calamitous.

But within another half decade Canada and the United States will have 150 million appetites to satisfy and most of them demand meat. They are a virile race these North Americans, living in a climate that has five months of low temperature and that means beef, pork and mutton consumption. It is the certainty of this market that warrants optimism concerning the future of the industry. Less than five years ago certain rainbow chasers at Washington compounded, off-hand, a remedy for high meat prices. They took off the duty, promising that Canada, South America and Australia would convert scarcity into plentitude, but it proves to have been a dream of the iridescent variety. While the European war has upset calculation the fact remains that climatic hardships such as Australia and Argentina have experienced would have averted gluts of the United States market. Cattle, hogs and sheep are actually higher at Toronto than Chicago, and Canadian bacon curers have maintained a stout prop under the Chicago hog market for a year past. In 1914 the United States imported 280 million pounds of fresh meats, but in 1916 this trade dropped to 56 million pounds and the bulk of that was beef from Argentina and Brazil *en route* to Europe.

CATTLE FROM CANADA TO STATES.

Cattle imports by the United States in 1914 were 640,000, but in 1916 only 215,000 were received, of which Canada furnished 137,000 and Mexico 74,000. In 1914 Canada's contribution was 146,000 and that of Mexico 465,000. In 1914 these imports carried considerable beef, but that trade is now largely a stocker proposition.

Food embargo agitators have been endeavoring to convince the public that meat cost has advanced wholly on account of export demand resulting from the war, and yet that output is insignificant when compared with total production. But for enormous domestic consumption it would not have been an influence. Last year the United States exported 52 million pounds of canned, 175 million pounds of fresh and 32 million pounds of pickled beef. Exports of hog product were 540 million pounds of bacon, 278 million pounds of hams, and 440 million pounds of lard. In addition about 100 million pounds of pickled pork went to Europe. This undoubtedly influenced prices, but *had Europe been on a peace basis a large volume of export trade would have been done.* The real secret of high livestock process is the fact that production is running several laps behind consumption and that everybody has a job. Reinstate such an industrial situation as existed three years ago before the European war began and livestock producers would speedily encounter adversity.

CHEAP LIVESTOCK PAST.

That the end of cheap livestock has passed is an assertion that does not need demonstrating. The period of free grass in the West and excessive production of corn in the Mississippi and Missouri Valleys created an excess of beef, pork and mutton and set up a case of acute indigestion at the market, but it will never happen again. Over much of former beef and mutton raising territory east of the Mississippi River the dairy industry has become paramount and *nothing beats the milk cow and the hog as a twin source of farm revenue.* Such States as Ohio, Pennsylvania and New York produce little beef or mutton. Wisconsin, Illinois, Michigan and Indiana are headed in the same direction and even Iowa is bragging of its growing dairy industry. Beef cattle and sheep breeding east of the Missouri River has dwindled to miniature proportions and but for Western product the Chicago stock yards would make a beggarly showing. *Seventy-five per cent. of the steer cattle and 80 per cent. of the sheep now reaching Chicago originated west of the Missouri River. East of Chicago not enough of either class of stock is produced annually to supply New York City alone.* Steadily the habitat of the beef cow and the breeding flock is being pushed westward and similarly contracted as even in the mountain and plains region the settler is a grain raiser by necessity, the present generation taking but little interest in livestock. The obvious meaning of this is that the beef and mutton supply of the future will be grown on less pasture and unless that grass is supplemented by feed, intensive culture being practised, the public larder will display a set of bare shelves.

The following tables, prepared by A. N. Lambert, secretary and statistician of the Public Markets of Winnipeg, have been supplied THE FARMER'S MAGAZINE. Stockyard movements make reliable returns and indicate livestock currents accurately.

LIVESTOCK RECEIPTS AT WINNIPEG, 1914, 1915 AND 1916.

Livestock.	1914.	1915.	1916.
Horses	5,928	6,214	10,761
Cattle	110,452	138,534	158,949
Hogs	461,889	484,997	317,821
Sheep	15,017	13,801	20,590

WHERE LIVESTOCK WENT, 1916, FROM STOCK YARDS, WINNIPEG.

(See Feb., 1916 Farmer's Magazine for 1914 and 1915 tables.)

Livestock	Winnipeg	East	West	U.S.A.
Horses	633	712	9,412	4
Cattle	73,432	19,537	31,479	34,119
Stockers and feeders	....	302	29,246	21,124
Sheep	17,121	6	3,361	57
Hogs	179,099	127,999	9,601	682

WHERE LIVESTOCK CAME FROM IN THE WINNIPEG YARDS.

Provinces	Horses	Cattle	Sheep	Hogs
Manitoba	1,013	76,474	12,614	106,739
Sask.	238	65,021	6,374	133,314
Alberta	504	14,175	1,493	77,705
B.C.	322	....	....	....
East	8,684	181	109	63

It will thus be noted that Saskatchewan furnished the largest number of hogs, Manitoba the largest number of cattle and sheep, and Eastern Canada, the horses. Considerable of Alberta's live stock goes to other centres.

This report shows that contrary to general opinion, young stocker cattle are going into the hands of Canadian farmers to a larger extent. Out of 54,785 stockers passing through the stock yards in 1915, 9,380 went West, while during 1916, of a total of 50,672, no fewer than 29,246 went West.

LIVESTOCK RECEIPTS AT TORONTO

Animals	1914	1915	1916
Cattle	227,000	333,000	331,000
Calves	48,789	46,199	43,000
Hogs	426,527	458,191	555,000
Sheep	182,510	187,500	189,511

GETTING BACK IN CATTLE.

Cattle production in the West is increasing. This refers both to Canada and the United States. The operation of an inexorable natural law would be frustrated if it were otherwise. High prices at the market always stimulate production and everywhere in the cattle country from Alberta on the north to Texas and New Mexico on the south cows are being conserved and calves man-tended in an effort to get back into the business. Cows by the hundred thousand have trekked westward during the past two years and pure-bred bulls by the carload have been distributed. When a movement of this nature gets under way it is irresistible, but the effort is timely, if not belated. Had it not occurred North America would soon have been beef-hungry as a semi-famine condition had actually been created. At Chicago, Kansas City and Omaha at the inception of 1917 corn-belt feeders were forced to pay anywhere from $8.75 to $10.25 per cwt. for fleshy steers to replenish their feed lots, an unprecedented condition and one calculated to paralyze the feeding industry, especially with corn flirting with the $1 mark and cottonseed worth $45 per ton. That this scarcity is real is demonstrated by free contracting of Texas cattle to go to Kansas pastures in April at $70 to $80 per head, an appreciation of 100 per cent. in a few years. The West may be getting back into cattle with all possible celerity, but time is necessary to mature a calf. Five years ago Texas was full of 4-year-old steers and breeders were apprehensive about an outlet; to-day that breeding ground has little to offer but 1916 calves, full yearlings and two-year olds being scarce, while the 4-year old is as rare as buffalo. Less than a decade back owners of northwestern grass dictated terms on southern stock cattle; now there are none to be had to go north. Texas is developing a feeding industry of its own, having been put in independent position by such forage plants as milo, maize and kaffir corn.

THE OVER-PRODUCTION BOGEY.

The theory of over-production of beef may be administered a solar plexus blow, by considering that cattle marketing has gone on an early maturity basis. Taking a calf at weaning time, doubling its weight at 18 months and then sending it to the butcher is both popular and profitable practice. It means that three bullocks will be needed in the future to furnish the beef yielded by one beast under the old system. Cattle must be well-bred for this purpose, but that is the trend of the day, the old-style Western steer, long of horn and awkward in shape has been destined for extinction. Hogs are also being marketed at younger age and lighter weight, so that increased pork production is not accurately measured by a count of tails.

In the case of sheep the aged wether has all but disappeared from the market, lamb production being the new order, consequently three or more lambs are necessary to supply the product formerly yielded by a sheep. These facts put a different light on statistics, or would if reasonably accurate figures were available.

A meat famine has been averted by increase in pork production, but flood tide has been reached and the 1917 crop of hogs in the United States, the only coun-

Continued on page 74.

The Man From Missouri

It is a Notable Fact That all the Leaders of Western Farm Movements Have Been Good Farmers

By NORMAN LAMBERT

The third article in this series, by Norman Lambert, will appear in the March issue. In December, the Birth of Western Agriculture, appeared. In March the subject will be a pen picture of the new manager of the Alberta Co-operative Elevators Co., who showed a profit of several thousand dollars this year.—EDITOR.

IN THE last week of January, in the City of Edmonton, a thousand stalwart, hardy-looking men and a hundred or more strong, capable women gathered together to constitute the Ninth Annual Convention of the United Farmers of Alberta. They went to Edmonton from all parts of the Province of Alberta as delegates, and amongst them were people of many types. There were farmers present who had once lived in old Ontario, and others attended whose ancestry took them far beyond the shores of Canada, to England, Ireland, Scotland, France, Denmark, Sweden, Norway, Russia, and even to Germany. There was also a large representation of delegates whose trek had been made across the international boundry line, from the United States, those shrewd and intelligent farmers whom the West has accepted as amongst its very best class of settlers and citizens. The convention lasted for four days, and many issues were debated, and recommendations passed, all of which will be duly regarded by the Governments of the day both in the Province of Alberta and at Ottawa.

Presiding over the deliberations of that cosmopolitan body of farmers in Edmonton last month, was a man who would catch the eye and ear of any meeting. As he sat quietly beside the plain, square deal table in the centre of the pulpit platform of the church where the United Farmers of Alberta held their convention, the chairman must eventually have drawn the attention of the spectator whose interest was not wholly absorbed by the details of the various discussions. If it had not been for the intently sober expression of his face, the chairman might have been accused of lolling indifferently in his chair. One hand rested carelessly on the table, while the other was caught by the thumb in a waistcoat pocket. The head was bent slightly forward with chin drawn in thoughtfully, and he was following every word that was spoken. Anyone who had never seen the man before, would have judged his physical size correctly as he sat there, from the proportions of his shoulder and the prominence of the crossed legs. But it was the serious lines of the face, and the steady gaze of deep-set brown eyes which attracted one most, and provoked the desire that he would rise to his feet and speak. Finally he did speak. He rose to give a ruling on a point of order, and explain a phase of the question under discussion. Immediately there was the betraying suggestion of the drawl or accent of the man from "across the line." The voice was deep and resonant, and his words were spoken directly, clearly and with strength. The explanation was short, but very much to the point, and it satisfied the desire of the few minutes previous, to see that latent figure in action. The speech sounded like the man looked —big, fair, strong, forceful.

The big deep-voiced farmer from Carstairs with the rugged appearance of Lincoln.

Such, indeed, are the qualities of H. W. Wood, of Carstairs, one of the ablest presidents which the United Farmers of Alberta ever had, and one of the most interesting figures in the whole Western Grain Growers' Movement. He was born on a farm in Rolls County, Missouri, fifty-seven years ago, and with the exception of three years spent in Texas, he did not leave his birthplace until he moved to Canada in the autumn of 1905. He is in every sense of the word a representative of that type of society which is said to have "its roots sunk deep in the soil." Educated in the rural school of his native county district, at a private school at Monroe City, and then at Christian University, in Canton, Missouri, H. W. Wood had the advantage of an exceptionally good preliminary training for the business of farming. His attention was directed naturally to the livestock industry — a circumstance which ultimately took him and his family to the fine cattle country in the foothills of Alberta. Today, three miles northwest of the town of Carstairs, he and his three sons are operating a 1600-acre farm, which is a model amongst farms of that size. Eight hundred acres are under cultivation, and the whole place is stocked with horses, cattle and hogs. All its life the Wood family has been devoted to ranching and stock breeding, and the present generation is following strongly in the footsteps of its forefathers.

LEADERS ARE GOOD FARMERS.

It is a notable feature of the Grain Growers' Movement that its leaders in every instance have been first-class farmers. That fact has been responsible in no small measure for the continued success of that vast organization. For ten years H. W. Wood worked industriously and quietly on his farm near Carstairs. He did not appear even before the Western agricultural organizations in a prominent light within that period. He was the typical man from Missouri. He had to be shown, or, in other words, he had to size things up for himself before becoming identified with any movement. That was not because of any antipathy or suspicion towards a body of organized farmers. He had united with the Farmers' and Laborers' Union of Missouri away back in 1885, while still a young man. Like most Americans he believed in organization, and when he first arrived in Alberta, joined the old Society of Equity, which later was amalgamated with the Alberta Farmers' Association forming the present United Farmers of Alberto. But H. W. Wood, while belonging to the Al-

berta organization and sympathetic with it in every way, took the time to study conditions in his adopted country before attempting to make recommendations or indicate a capacity for leadership. He had the advantage, moreover, of knowing rural life and its problems in the United States, with which country the people of Western Canada are very prone to draw parallels. Consequently, when the big, deep-voiced farmer from Carstairs, with the rugged appearance of Lincoln about him, began to take a leader's interest in the Grain Growers' Movement, people soon saw that he had something to say.

Singularly enough, the first convention of the United Farmers of Alberta that H. W. Wood attended was at Edmonton in 1911. He was a modest delegate then, from the little union which he had organized at Carstairs. At the convention, this year, in Edmonton the same man occupied the presidential chair. H. W. Wood has been a real "dark horse" amongst the organized farmers in the West. Such names as Motherwell, Langley, Crerar, Henders, Warner and Rice Sheppard are almost synonymous with the name Grain Growers. They have been identified with the Movement from the very beginning. But Wood appeared suddenly to everybody only in 1914, and since then he has pushed rapidly to the front. Three years ago, at the U.F.A. convention in Lethbridge, he was made a director of the Association, and in 1915 he became a Vice-President. Upon the death of that fine old man, James Speakman, late in the year 1915, H. W. Wood assumed the office of president. One remembers distinctly the first platform appearance of this man. It was at a Liberal convention in Calgary, early in the year 1914. The Liberals had been casting about for a candidate for one of the Calgary constituencies which extended far beyond the city limits into one of the rural districts. Two names were in the minds of the delegates of the convention, and one of these, it was known, would be withdrawn. The other was that of a man who had done yeoman service for the party, but really had not the slightest other qualification to entitle him to contest any seat for Parliament. H. W. Wood had been sent to the convention as a delegate from Carstairs, and before the nominations were received he was called on to speak. The speech was simply a logical and well- delivered statement of the problems besetting the life of Western Canada, but it threw the hungry leaders of the party in Calgary into consternation. Before he had finished, they were asking, "Who is this man, Wood? Why have we not heard of him before?" Here was a candidate of the highest order, but it was too late to secure either his nomination or his consent to be nominated. The party worker received the support of the convention, but H. W. Wood's name has been preserved in many minds since that day as a living rebuke to the imperfections of political organization.

FARMERS AND BANKS.

During the past year H. W. Wood has been a prominent figure in several important conferences which have been held in the West. In reaching a better understanding with the financial institutions of the country on the subject of rural credits, he, as one of the representatives of the organized farmers of the West has been particularly prominent. It was he more than any other of the Grain Growers who helped in clearing away much of the prejudice and misunderstanding that has existed for many years with regard to the relationship between the Western farmer and the banks. In the first place, H. W. Wood showed that rates of interest charged by the Canadian banks were no higher than, and in many cases, not so high as, the rates imposed by banks in the United States. He pointed out, too, that the need of the Western farmer was not so much lower rates of interest as a more sympathetic and more constant line of credit at the banks. He showed that the great financial burden of the farmers had been contracted through an unintelligent and indiscriminate use of credit machinery, as supplied by the implement agents, the horse dealer and the retail storekeeper. "If you can arrange to deal directly with the banks at the proper time of the year," he said, "you will eliminate these intermediary lines of credit which are the cause of interest charges reaching exorbitant rates." *Too much credit of a certain kind had been the cause of the farmer's trouble in many, many cases, and the sooner a more economic way of financing agricultural business was adopted by the farmer himself, the more quickly would the entire country be benefited.* That was the clear-headed way in which H. W. Wood tackled the question of rural credits. He saw that the issue had two sides, and he was honest and intelligent enough to indulge in self-criticism and analysis when the solving of the problem called for it. To the bankers he also directed his criticisms. Regarding their system as it affects the Western Canadian farmer he said: "If we could get the present banking system into a more intelligent and sympathetic contact with the personnel of the farm, and the farm business, we would have as good a system as we could wish for." This is really his conclusion and conviction on the question of banking accommodation for the farmer. That it has been appreciated by the bankers themselves may be judged by the remark made to the writer by one of the most prominent members of the Western branch of the Canadian Bankers' Association. He said: *"I consider Wood to be amongst the ablest men of this country, and one whose views I would be glad to seek on any question relating to the development of these Western provinces."*

Thus, the man from Missouri has taken his place in the front rank of the Grain Growers' Movement, beside those outstanding Englishmen whose radical, restless minds have done so much in establishing the cause of organized farming interests in Canada. H. W. Wood represents the type of man whom, it is hoped, future developments will bring into the West from the United States. The Grain Growers' Movement can receive no better material upon which to cast its responsibilities of office. In the opinion of many people who are thinking about the future of Western Canada, the farmer from the United States who can be induced to cross the forty-ninth parallel of latitude into the prairie lands of the West, will be the most welcomed class of people that this new country can receive. There are American farmers living now all the way across the Canadian West, and they are proved citizens of the best kind. Men like H. W. Wood have whetted the country's desire for more of the same ilk.

In Active Service for Thirty-seven Years

"I MADE that harness for you. Do you remember how long since?" The question was asked by one of the veteran harness makers of Ontario not long ago.

"Just thirty-seven years this winter," was the answer, "and it does all that we ask of it to this day."

Here was another instance of its being good practice to get a good article, particularly in the harness line. Of course, the customer paid a good price, but it was money in his pocket to do so.

Not only had this farmer paid a good price for his harness, but he had observed a few simple but important rules in the preservation of his harness. For one thing he kept the harness in a cupboard outside the stables, and thus free from all destructive odors and moisture. Many a farmer has allowed his harness to come to an untimely end by leaving it in an ill-ventilated stable along with his horses. Not so this farmer. His dry harness cupboard kept the harness dry and free from rotting.

Along with the practice of keeping the harness in a dry cupboard has gone the equally important practice of wiping the harness each time it is brought in wet with sweat or rain or snow. A large cloth kept in the cupboard along with a good hook conveniently placed for hanging the harness while it is being dried makes the wiping process anything but a tedious one.

The third factor that has given endurance to this harness has been its annual cleaning. The harness is first taken apart and thoroughly washed and allowed to dry for at least twenty-four hours. The next step is a thorough oiling with a softening oil and leather preserver recommended by his harness maker.

These precautions along with an annual overhauling at the repair shop have saved the owner not only vexation, but many a dollar.—J.A.

TOP DRESSING PASTURES

The first step in the improvement of pastures is often the use of ground carbonate of lime. Apply at rate of 1 to 2 tons per acre at any time. In the spring just as the frost is coming out of the ground it is well to sow on thin pastures, per acre:

White clover	2 lbs.
Alsike clover	2 lbs.
Blue grass	3 lbs.

A top dressing of some complete fertilizer furnishing about 15 lbs. of nitrogen will help up the grasses. Farm animals should not be turned into the pasture which has been top dressed with fertilizer until after a heavy rain and the pools of water have had time to dry up. Else stock may be injured or even poisoned by the fertilizer adhering to the grass or in the water.

The Exceptional Child: By GENEVIEVE

Don't Neglect the Common or Garden Variety, But Put Your Best Work on the Frail, Supersensitive or Handicapped Little Beings Who Run to Extremes

THE normal, noisy, happy, average child doesn't require a great deal of individual attention. Given right conditions of foods, sleep, play and example of conduct, he will develop pretty satisfactorily along the lines nature intended — unless something else sets in. You have to always be on the lookout for that; as in most other things, eternal vigilance is the price of safety for your child.

But when you have to deal with the child who is delicate, or deformed, or handicapped in any way, or with one of those frail, quaint, dreamy, hyper-sensitive little beings whose grandmothers fear they will never grow up, you are up against a more difficult proposition. We don't want to neglect the common or garden variety, but we should set our best brains thinking and put our best work on these exceptional children. A right parental instinct would do this anyway, but in a cold-blooded way it is likely to pay economically. Havelock Ellis, for instance, found in his study of British Genius, that no less than fifteen per cent. of the great men of English history were "of notably feeble physical constitution" in childhood.

One of the greatest dangers for the exceptional, clever child is his parents' pride in him. If he is gifted in ways that make it easy for him to "show off," he is likely to be encouraged until he becomes a conceited little prig. If he is inclined to be thoughtful and studious he may be urged or allowed to pore over books indoors when he should have someone who understands children's play teaching him to swim and skate and generally learn to love the outdoors. It is not only that this will safeguard his health and develop his physical courage, but the chances of ruining an immature brain through overwork in its tender stages, are great.

However, comparatively few children will ever be geniuses, or show marked tendencies in a studious direction. The greater responsibility of most parents lies in watching over their physical well-being, and it may well be taken as a general rule that when children behave in an unusual way, it is the result of some defect or disease rather than a natural perversity, and that it is time to investigate. In spite of the many advantages accredited to farm life for children, a glance over the pupils in most country schools shows an alarming number of puny, ill-nourished youngsters. To be lean and gaunt and "fit" is an ideal only for adults,

Anyone could be an optimist with a start like this.

but leanness and thinness in a healthy child means simply that he isn't getting enough of the right kind of food, or possibly that he is overworked. Physicians generally agree that one of the best indications of strong resistance to disease is a good inch of padding over the youngster's bones. The very good practice of periodically weighing the growing farm animals, and investigating the rations if reasonable increase is not being made, might well be extended to the children.

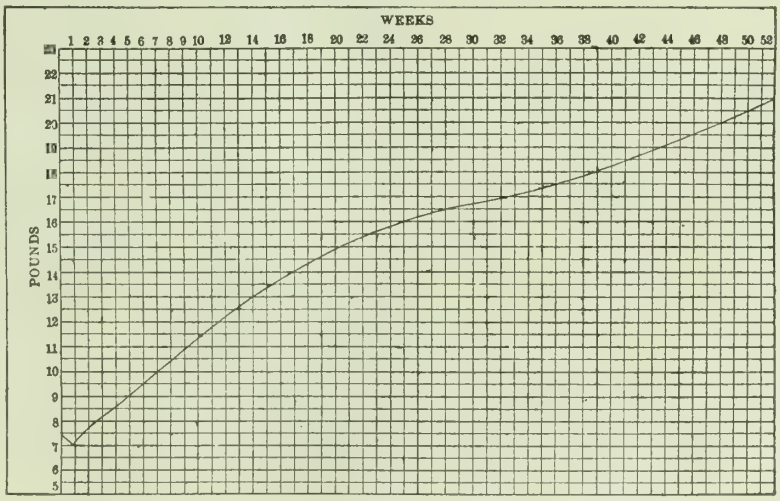
If a child flinches from the light, or wears his forehead in a perpetual frown, or peers at things between narrowed lids, it isn't just a habit. He should be sent at once to a reliable oculist. In a young child, sensitiveness to light that is not excessively glaring is usually a sign of astigmatism; peering between half-closed lids denotes short-sightedness or myopia; a frowning forehead and fretful, unhappy expression may mean either eye-strain or dyspepsia.

The next danger which should be watched for is using the mouth to breathe through. The habit of mouth breathing means just one thing, that the nose is blocked. The youngster doesn't breathe through his mouth because he likes to, but because he would choke if he didn't. The obstruction which causes mouth-breathing is due to one of two causes. The first is simple, chronic nasal catarrh due to a succession of hangovers from imperfectly cured colds, and in spite of the general superstition to the contrary this trouble is easily cured if taken in time. If allowed to drag on, the second great nasal obstruction is likely to develop, the popular adenoids. These are simply enlargements of a mass of spongy half-granular tissue directly in the centre of the roof of the mouth at the back of the nasal passages. Unfortunately these nasal growths cannot be seen except by the use of a throat mirror in the hands of an expert, but if your child has a chronic relaxed and spongy condition of the throat with a good deal of snuffling and coughing, don't wait for him to become a mouth-breather before you have his throat examined. If he is taken to a throat specialist at once the trouble may be nipped in the bud before it gets in its worst work.

And the effects of adenoids, well known as they are, will bear repetition. First, of course, the air which reaches the lungs has to come through the

Continued on page 18.

How Does Your Baby Grow? Average Rules to Standardization



Weight chart for the first year; the curved line indicates the average rate of gain.

TABLE SHOWING AVERAGE NORMAL DEVELOPMENT UP TO FIVE YEARS.

	Weight	Height	Chest	Head
At birth	7½ pounds	20½ inches	13½ inches	14 inches
One year	21 pounds	29 inches	18 inches	18 inches
Two years	27 pounds	32 inches	19 inches	19 inches
Three years	32 pounds	35 inches	20 inches	19¼ inches
Four years	36 pounds	38 inches	20¾ inches	19¾ inches
Five years	41 pounds	41½ inches	21½ inches	20½ inches

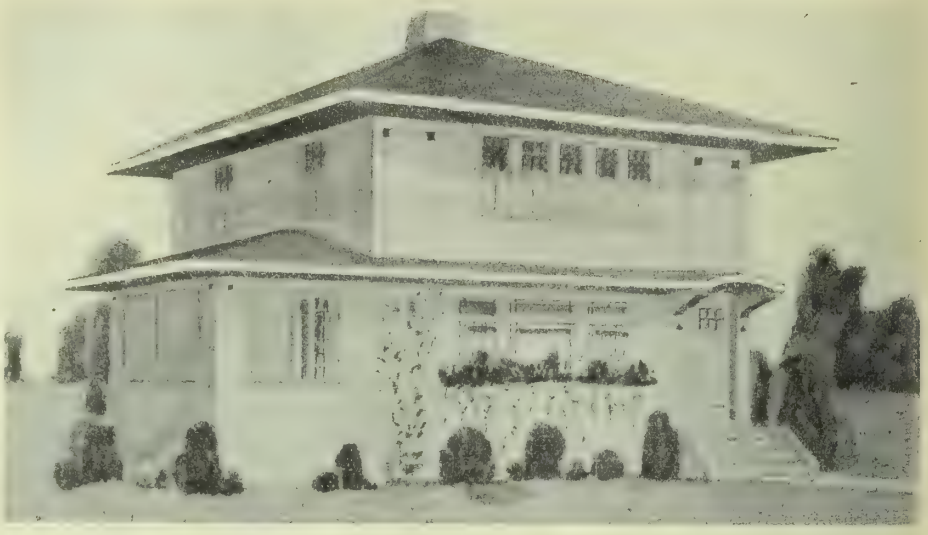
Note.—The above measurements are for boys. The weight of girls is on the average about one pound less than boys. They are about the same in height.

Practical Farm House Types: By GENEVIEVE

Simple and Artistic in Design, Fitted With Every Modern Essential for Comfortable, Healthful Living

THE REAL farm house, planned to fill the needs of farm life, seems hard to find, but not very hard to build. There is no waste of labor or material in elaborate gothics, awkward gables, carved cornices or spare rooms. The whole plan is compact and simple, arranged after the family's ideal of utility and beauty — dignified in appearance and fitted with every modern essential for comfortable, healthful living. This is where the average ready-made planned-by-the-hundred house fails. It may do for a city dwelling, but not for the permanent home of a family for a generation or two.

The houses shown here illustrate three general types, the compact square house, the bungalow type, or the one-and-a-half storey house built on bungalow lines, and the cottage or one-storey house so desirable for the prairie or windy localities.



There is something very substantial and dignified in this square, compact house. The severe outline is beautifully relieved by the arrangement of windows, the side porch and the portico over the door.

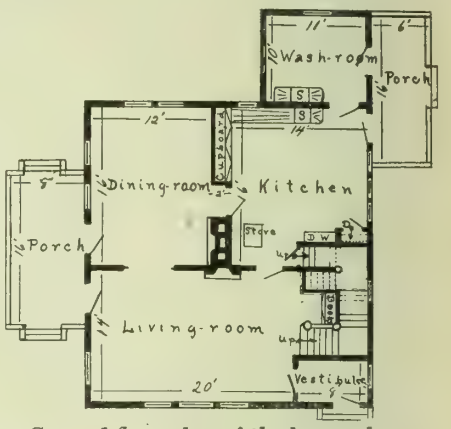
THE PLAIN SQUARE HOUSE MADE ATTRACTIVE.

In the plain square house the common tendency to coldness and severity in appearance is entirely overcome by the grouping of the front windows, the wide side-porch and the little colonial effect in the portico over the door. A lasting dignity comes from the absence of any attempt at decoration with broken roof lines, dormers, and cornice trimmings. The small panes in the upper window sashes, and the generous window space in the front, give a lightsomeness without weakening the effect of permanence and solidity.

In suggesting a layout for this house one of the first considerations has been to keep the rooms compact and to make the most of the available floor-space. A vestibule inside the front door provides a place for hanging coats, and since there is no porch over the door, it serves as a protection for the living room against draughts and mud-tracks in stormy weather. The winding stair fits in neatly back of the vestibule, making a snug little recess for book shelves.

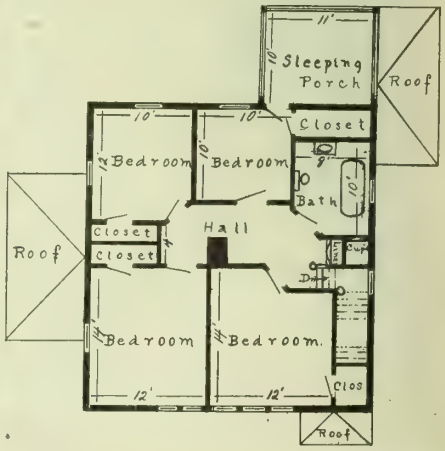
Both living-room and dining-room open onto the roomy side porch, a feature that adds much to the house in summer, especially if the sides are screened in. The chimney being placed so it can accommodate three fires, the kitchen range as well as a fireplace in both dining-room and living-room; and the kitchen cupboard being set in the dining-room wall, saves cutting up the floor space. The stairs running up from the kitchen and joining the main stairway on the landing could be omitted, but they add a great deal to the convenience of the house. The cellar stairs run down below the main stairway, and where they are moved back to give head room under the landing, the corner makes a good place for a dumb-waiter. Other features that the housekeeper will appreciate are the placing of the sink with a six-foot drainboard and cupboard at the left, the ample window-space lighting the room from two sides, the washroom in the rear which serves as a laundry as well as a washroom for the men, and the side porch where some of the kitchen work can be done in hot weather.

On the second floor we have four bedrooms with a clothes closet off each, a bath-room and a sleeping porch. By cutting off the corners of three of the rooms it has been possible to make them longer



Ground floor plan of the house shown above.

A quaint, roomy, one-story house. Diagram of layout is shown in the centre of the next page.



First floor plan of the house shown above.

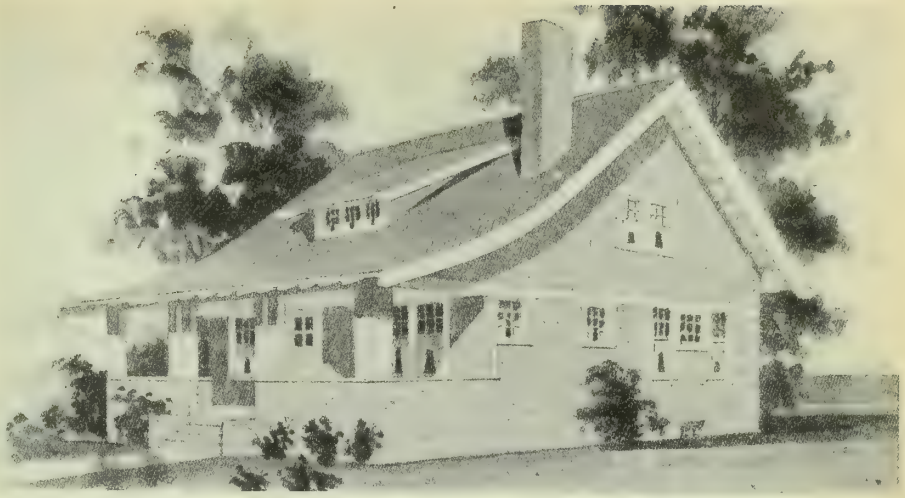
than if they were kept perfect rectangles. The linen-closet and bath-room cupboard built in over the back stairs occupy a space that would otherwise be wasted.

THE PRACTICAL BUNGALOW.

The more we appreciate beauty in our houses, the more our interest will turn to the bungalow, not the "cute," "very striking" or foreign looking affair, so low-roofed and bedormered in the effort to be "different" that there is scarcely space for one good-sized room inside. Instead of a novelty we want a quiet beauty following design. The type shown here is so simple and artistic in its lines that it will become dearer every time we see it; the deep, sheltering porch, the square chimney, the small-paned casement windows and the whole quaint, unpretentious make-up, give an atmosphere befitting a country home.

In the interior layout, the living-room runs right across the front of the house, a length of twenty-eight feet. This may be considered rather large, but it is a decided advantage to a home, especially where there is a family growing up, to have a room where the young people can entertain their friends in numbers—even where the rugs can be taken up and a space cleared large enough to accommodate a set at Sir Roger de Coverly. This is an ideal living-room. The length gives a fine effect of spaciousness, even while the room is not wide; the windows on three sides let in the best light there is even on the darkest days; and the fireplace adds an atmosphere of warmth and family intimacy that nothing else can give.

Near one end of the living-room, wide sliding doors open into the dining-room, and beyond this is the kitchen. At the other end of the living-room is a small office. This arrangement leaves the living rooms of the house in a very convenient relation to one another. A central hall separates these rooms from the bathroom and bedroom. It is almost necessary to have the bath and one bedroom downstairs in a house with only one-half story above the first floor, and there are certain advantages to having a bedroom downstairs, especially where the bathroom also is on the ground floor.



The simple, artistic, lines of this semi-bungalow make a charming picture on the farm landscape.

The layout of the second floor is necessarily simple. The roof slopes so low, especially toward the front, that the room must be very large to allow for the waste where there is little head-room.

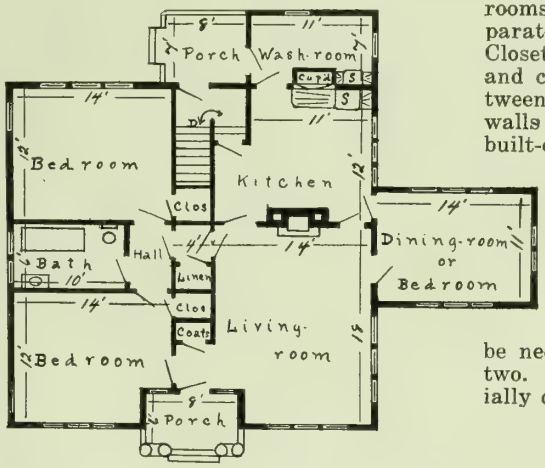
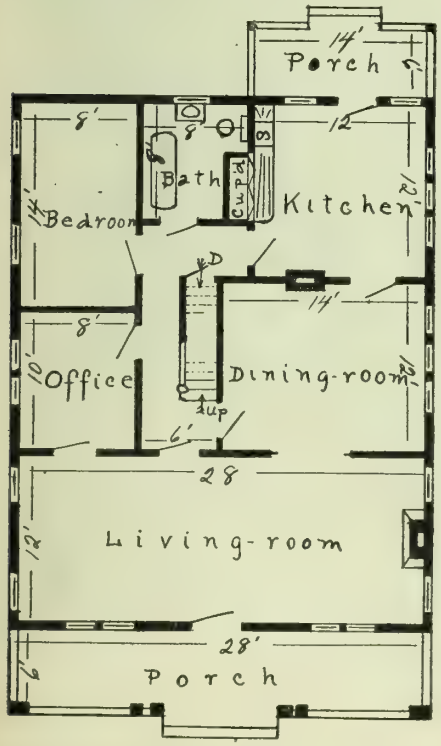


Diagram showing lay-out of house shown at the bottom of preceding page.

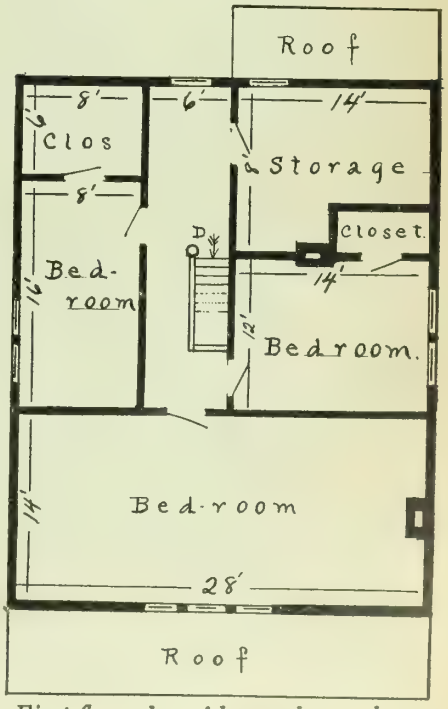
THE ROOMY ONE-STORY HOUSE.

For the prairie or windy regions, or where the cottage type of house appeals especially to the builder's artistic tastes, the one-story house shown here is particularly interesting. The old-fashioned straight roof, with the unusual curve over the windows, the broad front with the wide grouped windows and the doorway with side pillars and sheltered "stoop," make this a most charming and individual country home.

The interior arrangement is planned to get the greatest possible good from the available space. With very little space given to the hall room the bath and bedrooms have been well connected, and separated from the rest of the house. Closets from each bedroom, a linen closet and coat closet have been worked in between walls running flush with the stairwalls without cutting up the rooms. The built-on part may be omitted, but it makes a very cheerful dining-room, lighted from three sides, or where an extra bedroom is needed it can be used for that. The dimensions here have been kept down to thirty-two feet for the main part of the house. For an average family it would be necessary to add another bedroom or two. This could be done without materially changing the layout given.



Ground floor plan of house shown above.



First floor plan of house shown above.

A MONTHLY TREAT.

"As it is drawing near the time of the year when a large number of subscriptions throughout the world to magazines and other periodicals expire, and as I am among the number I am enclosing $1 for one year renewal to FARMER'S MAGAZINE.

"I have been a subscriber to your magazine ever since it was published, and I feel as if I could not get along without it. It is a welcome treat on its monthly arrival.

"Yours very truly,

Wellington Co., Ont. "J. STRANGWAYS."

A Ten-Hour Day for the Farmer's Wife—Is It Possible?

By GENEVIEVE

I KNOW there can be no ten-hour day in the laborer's sense of the term. The day's work for any housekeeper necessarily extends over a period longer than ten hours, but ten hours at different times of the day should cover the woman's actual work in caring for her home, leaving the other hours for rest recreation, the children, a hobby like flowers or music or reading, or for some worthwhile outside work such as the church, the Red Cross, the Women's Institute or other organization for the betterment of the community. The evenings, I believe, should be kept free for companionship with the family, discarding even the time-honored bit of handwork — unless perhaps, for the duration of the war a woman can knit semi-consciously without either eye or nerve strain.

The straight pushing of the vacuum cleaner does away with the straining, twisting motion of using a broom.

I know, too, that the ten-hour day, much as other workers complain of its length, is not possible to a great many farm housekeepers, under existing conditions. It can be made possible only through three things: a right mental attitude to the work, system that maps out and plans the day's work and the week's work in advance, and an equipment that conserves woman-power and saves time.

Or perhaps while the knitting is needed so badly we had better consider it as a worthy piece of work outside the programme for normal times.

INSPIRED ATTITUDE AND PRACTICAL SYSTEM.

The attitude is one of the first stumbling-blocks. For some reason or other there has spread the unfortunate idea that housework is drudgery, and when we speak of lightening the work of the housekeeper, we invariably give the excuse that it leaves a woman more time for "higher life." There really isn't much that can be called higher life; all life is "higher" when you see it in its right perspective, and surely the work of the homemaker who looks after the physical and moral upbuilding of human beings is on just as high a plane as those things pertaining to education and amusement. When we realize that the good cook is at least running a close second to the physician in conserving the health of the nation; that the woman who makes her home beautiful creates a picture just as much a work of art as the painter's, and more far-reaching in its influence; that homes kept clean and lovely have done the world more good than whole books of sermons—then we may get away from the idea that the housework is drudgery.

While there is inspiration in this viewpoint, it lightens the work only as it helps us to take it up with a new spirit. And all the zeal in the world won't take the place of good management. You can't run a home according to schedule like you could a factory, but every woman can devise some system to suit her own case. She can have her work planned ahead for a day or a week. She can know at night just what she is going to have for breakfast, and if there is to be a cereal she can have it partly cooked at night so it will take only a few minutes to prepare the meal in the morning. She can draft a set of menus for a week so as to have a balanced and varied bill-of-fare from the supplies available or home-grown. And she can cut out a lot of things that she has heretofore considered indispensable in her housekeeping.

Spare minutes snatched here and there under the system where a woman's work is never done, can scarcely be called rest-spells.

The cutting out must be done with surgical precaution, of course, or it is likely to be disastrous. Meals can be simplified, but care cannot be lessened in doing the cooking. Over and over again in homes where a maid is kept, we find the maid unskilled and ignorant, perhaps, left in charge of the kitchen and the cooking while the mistress dusts the parlor, etc., because the kitchen work is "dirty" and hard on the hands. Or again, the children are turned over entirely to hired help whose influence may be decidedly questionable. Again, the mother loses a great opportunity and a privilege. However, as labor conditions stand, the farmer's

Continued on page 92.

In striking contrast to the advanced labor-saving methods of doing men's work on the farm, women are still, in many cases, working with the equipment that served their grandmothers.

Ontario's Hinterland

A Great Future Ahead of This Big, Rich Clay Belt, 350 Miles North of Toronto

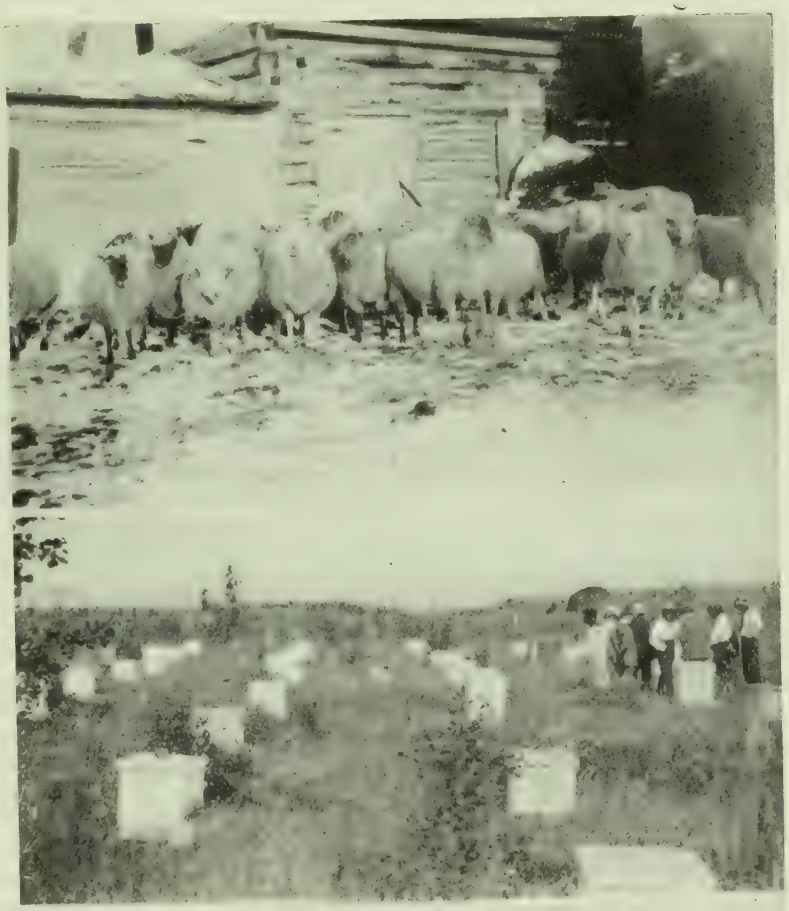
By W. G. NIXON

In the March issue a story of how one farmer in Algoma paid off a mortgage, cleared his 160-acre farm and erected up-to-date buildings with sheep as his strong suit is told by the farmer himself.—EDITOR.

ONTARIO—One of the chief provinces of the Dominion of Canada, large in extent, having an area of 407,262 square miles, three and one-third times the size of Great Britain and Ireland and recognized as the richest and most populous of the Dominion, exceedingly rich in natural resources. And yet when Ontario is mentioned in general conversation, how many think only of the 77,262 square miles comprising that portion spoken of as "Old Ontario," and forget all about the 330,000 square miles, the area of "New Ontario." The major portion, that so many of the people of Old Ontario are greatly ignorant of and regard as a place where the Redskin and paddles the stream or lake unmolested, hunts moose and traps numerous fur-bearing animals—for the Hudson Bay Company — and makes a pack-horse out of his squaw. And apparently the only way to convince the uninformed and skeptical man who occupies a place among the crowd of uninformed is to extend to him, as in Biblical times, the invitation, "Come and see."

Come and see its natural resources, in timber—that which, along with its mineral, has helped to build up many industries of the older parts of the province. While great quantities of timber have already been cut and manufactured, there still remain large areas that are attracting capitalists, who are investing their money in pulp mills, rossing mills, making prepartion to turn this raw material into a finished product. Then there are its silver and gold camps, vast in extent and rich beyond all comprehension.

The exploitation of its silver, gold, nickel, and other ores is yet in its infancy, new discoveries are still being made and there yet remain thousands of square miles of unexplored territory awaiting the advent of the prospector. Some one has given out the advice that it is always well to "think before you speak." This can be said to be true of many people who discuss the Hinterland of Ontario. A person should not only consider well before passing an opinion, but should also be in possession of sufficient knowledge regarding the question under discussion to be able to draw proper conclusions or make just criticisms. Most certainly there are many who not only regard New Ontario in a sort of patronizing way, but who go so far as to discredit what has already been demonstrated beyond a doubt.



Scenes in New Ontario. Sheep pay well. Clover is so easy to grow. Bees, therefore, thrive, and Grimm Alfalfa as seen in bottom picture near New Liskeard, does well.

Questions frequently asked by men interested in the agricultural welfare of this vast new country are: What is the timber like? The soil, what is it like; also is it hard to clear? How are the seasons, severe, short, or otherwise? What can be grown and what danger is there from summer frosts? Well, naturally, there are a variety of opinions as to how these questions should be answered, more particularly the latter. As regards the timber, of course it is as nature made it, and cannot be changed. To avoid a description in detail of the different kinds of timber found throughout all of New Ontario, we will deal only with that of the "Clay Belt." This starts at the lower end of Temiskaming, about Haileybury or New Liskeard, extending north beyond Cochrane and west and east on the Transcontinental. The majority of the timber is evergreen, consisting of spruce, balsam and tamarack. There is also quite a lot of whitewood and balm-of-gilead, and some white birch and a limited quantity of hardwood. The soil is chiefly a clay and clay loam, with a few areas of sand and sandy loam here and there. Generally speaking, the soil can be classed as all clay, friable in texture and very susceptible to the action of weathering agents. The land on the whole is very easily cleared because of the fact that there is quite a depth of top-soil and the trees are shallow-rooted.

There are exceptions to this rule where whitewood and balm-of-gilead are found, and other heavier timber. The seasons are naturally somewhat different to those of the southern part of the province; summers are shorter and winters longer; however, the effect on agriculture is not so marked as one would expect. On account of being geographically situated fairly well north — 350-500 miles north of Toronto—the days are longer during the growing season, therefore there are more hours of sunshine per day and a more rapid growth than in Old Ontario. The man who wishes to be successful will do his best to have all plowing, etc., done in the fall in order that he may get on the land in the spring as soon as possible; in this way giving crops plenty of time to mature before danger of frosts or wet weather. Winter weather is at times severe, but never any worse than is experienced in the west or sometimes even in the south. The air is dry, therefore not so penetrating as if it were moist.

Climatic conditions should not deter the ambitious man from making a home in this part of the province.

The Exceptional Child

Continued from page 13.

mouth, and has missed the moistening and warming and dust-cleansing that nature provided for it, the nasal passages. Consequently the throat, larynx and upper air tubes of the lungs are kept in a dry, dusty and irritated condition. Adenoids are among the commonest causes for bronchitis among children.

The next commonest mischief of these growths is the blocking of the Eustachian tubes, which run from the throat to the drum cavity of the ear, causing earache, running of the ear, and chronic deafness. Many a child is prepetually blamed for not obeying instructions or absorbing information which he can't hear. No wonder he develops into a sullen little rebel against all authority.

Next in their destruction of the child's happiness—and this does not disappear with the removal of the growths—is the effect on the teeth. As the mouth gapes open to catch air, the lower jaw drops and the upper teeth protrude, the roof of the mouth becomes high-arched and narrow, the lips thickened and likely a little inflamed, and the whole face is thrown out of balance. Further, from their effects on the teeth, and from the mucus being perpetually gulped down into the stomach, the mouth-breathing child usually has a poor appetite and a bad digestion. As a consequence of this, along with his other troubles, he is likely to be under-sized, narrow-chested, a poor sleeper, and more than likely backward in his school-work as well as in his growth. It is no unusual thing at all to see children gain two inches in height and two grades in school within a year after the removal of adenoids.

A cripple from any cause except serious accident, in ninety cases out of a hundred, means some person's ignorance or neglect in childhood, and a large share of permanent blindness, deafness and dumbness could have been prevented if the condition had been detected and treated at the beginning—which in most cases means just following some acute illness. Particularly is this true in the two to five weeks following recovery from an infection or fever. Any of the infections may be followed by paralysis of a muscle or group of muscles, so that if your child begins to limp a little or to drag one foot or even in a negative way seems unable to roll over easily or turn himself, it is a warning to be heeded. The symptoms may mean nothing at all, or they may mean the beginning of some paralysis or crippling which, if neglected, may become permanent. Indeed, the conviction is growing among physicians that if we watched for and took prompt action upon the first signs of "growing pains" (which generally mean that something else is growing besides the child), or limping, or flinching, or bad carriage, or sitting in unusual positions, we could prevent nine-tenths of permanent crippling or deformity. Even such cases of deformity as club-foot and cleft-palate, it need scarcely be mentioned, if detected early and treated promptly, can often be so nearly cured that the children may grow up strong and straight and happy.

One of the commonest causes of "growing pains" and weak backs and of bad carriage and a slouching gait as well as general peevishness can be traced to foot troubles. Growing children suffer an endless amount of torture through having to wear badly-fitting shoes; in fact it would be safe to say that few people have grown up on the farm without unpleasant memories of "Sunday shoes." It is well to remember that it would be just as reasonable to crush the fine works of a watch into a space too small for them, as to force the delicate mechanism of the human foot into an ill-fitting, deforming case of a shoe. Flat-foot or weak or broken arch can be corrected or nearly corrected by an orthopedist; or the foot may sometimes be restored to its strong, normal condition by proper shoeing. (This is a subject by itself which will be treated in an early issue.) Not least among parental responsibilities is the matter of giving a child a right footing for life.

The Country Church and the New Stride

By JAS. ANTHONY

RED BLOODED men are marching to a new stride. The war bugles have sounded the retreat not only of the incapable in the army and navy, but of the inefficient in business and law and medicine and politics, and in the church. "The tools to the hands that can use them, and the rewards to those who serve," is the slogan that has rallied the Empire.

Canadians have caught the new stride. Canada's sons have paid the cost of nationhood. As her sons press forward with the swing of conquering men, Canada demonstrates that she not only prizes liberty and justice, that she is willing to make sacrifices that her spiritual heritage shall not perish.

Will the church catch the new stride? As her sons return from the battle field, will the church kindle their spirits with ideals that will call out their highest endeavors in the day of peace? Canada's warrior sons laid aside the hammer and the yard stick and the pen to fight for liberty, civil, commercial, social, political, religious. Having been kindled in heart to do and to sacrifice, having learned to act under the inspiration and strength of the highest motives, will the Church allow these men whose souls must surely be purged of individualism and selfishness to act upon the sordid rule of

> "Let him get who has the power,
> And let him keep who can?"

The church has not failed in the past. Never once has she measured up to her ideals, as her best children are the first to confess. In a thousand ways she has come short. Yet without her influence, whether direct or indirect, society becomes a poor sordid thing. With all her mistakes, the church has been the prophet of her day. Slow of foot as she has often proven herself, she has been the pioneer of all that makes for honored womanhood, worthy manhood, and righteousness in courts of justice, honor between man his fellow, purity in politics, the square deal between the man of power and the man who works with and for him, and peace and decency everywhere.

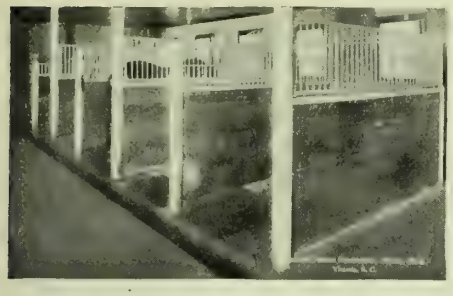
Will the church in the country measure up to her new day? For a new day is reddening the East. Things are not at all as they were on the first of August of 1914. Greater still will be the change when the war is fought to a finish. While the school and the bank, and the business office will have their special problems, the church must lead in every department where men think and struggle.

The country church is asked, all the more powerful is the appeal because it is an appeal and not a command, to remind her children that country people have a share in world problems and in world-movements. The farmer as he busied himself for the last twenty years about his grain and cattle was but little aware that the loom of destiny was preparing the awful whirlwind of slaughter that now staggers the world. Yet the shuttles were flying, and in a minute that he least thought of it, the tempest broke in fury and carried away his best and dearest. The country church must see to it that her children must never repeat a blunder so colossal and so costly. Her message must be world-wide and yet applied to the daily life and practice of her people.

Above all else she must be wise and discerning lest her people be deceived by false cries and by the misleading policies of men in business and public life who have some axe to grind. In a way and to a degree never required of her before, the church must endeavor to keep her people's vision true. Some of her sons will feel that toil and devotion end only in the battle field. Others will teach that old things, including human nature, have passed away. New enterprises will be proposed that have nothing in reality to recommend them but their novelty. In the midst of all the would-be leaders the church must take her stand seeing farther and thinking more deeply than any of her contemporaries, and imperiously pointing all who listen to the duty that presses hardest and to the service most required. Nothing of human interest is of little importance to her. In every parish the church's leaders should be the best informed and most active men within its borders, and by mutual council and earnest study must they prepare each want as it emerges, and study each sign of the times so closely that pitfalls will be closed before they destroy, and highways opened as soon as men are ready to walk therein. This is the pre-eminent duty of each local church. Leadership she can and must provide. For her to fail in leadership is for her to court destruction. For her to serve according to the needs of her day is for her to prove herself the custodian of the light that ever cheers and ever flirts.

The Art of Stabling Stock: By ELUID KESTER

Why Things Are Done as They Are in Ventilation, Materials and Conveniences in Live Stock Husbandry



A horse stable in B.C. A complete stall is equipped with swinging mangers, oat bowls, guards, steel posts and rings; from $25 to $32.

Farmers, remodelling their barns and stables, or rebuilding, would be led to instal many devices for convenience and sanitary reasons, if they knew that such devices were to be had and that they could purchase the piece like they do a pump or a plow, and instal it themselves. As one builder said recently: "I did not know that they made metal stable doors or I certainly would have used them." The writer gives points of information on equipment and cement work that will help greatly.—Editor.

WHEN a farmer decides to remodel his stables or to build new ones, he is almost sure to have many neighbors and others to advise him as to the general plans. A great deal of the advice is given to emphasize one particular feature, that perchance has come particularly to the adviser's notice. If the builder takes no advice and decides to build along some preconceived notions, or plans, that he has learned from his father, he is just as likely to make some big blunders.

The sensible farmer realizes that stables are for housing animals from the weather, and also for feeding purposes. Covering them from the elements is a very simple matter. Feeding them takes more thought because we must consider the labor of getting the feed to the animal and the toil of carrying the manure from the building. And we have to go further. Shut-in animals require constant supplies of air and light—things they get in sufficient quantities when in the wild state.

The problem, therefore, becomes one of intelligent construction, convenience in arrangement and the regulation of the cost to one's ability to pay.

The latter is easily settled. Most farmers know what they can spend on equipment, although what seems sometimes to be an expense, is really a resource that enables them to make money faster.

Intelligent construction and convenience in arrangement are not facts lying around for everyone to pick up, but require study, comparison and common sense to an unusual degree.

George Powers, of Woodmere farm, wants to remodel his stables. What general principles must he know and how shall he do things. These are some of the things we will try to answer in this article.

WHAT MATERIAL SHALL I USE?

The farmer, who builds, must be guided largely by the relative costs of materials in his own vicinity, laying proper stress upon the future as to permanence, sanitation, fire-proofing qualities, cost of upkeep and appearance.

It is, therefore, in the nature of things that cement and steel should become prominent in farm buildings. Especially in dairy barns, do modern conditions demand these materials.

In a great many cases, wood will still be used, because of its cheapness and proximity. Much of the old timber can be reworked into the new stables. But a scientific equipment discards emphatically all wood from certain stables as the dairy.

Three prime requisites, as said above, should be never lost sight of in building a stable: 1. The comfort and health of livestock; 2. The convenient arrangement to save time and labor in caring for stock; 3. Cleanliness.

The stable should be reasonably warm in winter and cool in summer. It should have plenty of light and ventilation. Especially is good ventilation necessary in a cattle barn. A sanitary barn demands fresh air, sunlight, good drainage and protection against *sudden changes* of temperature. The winter ventilation can be provided for by either the Rutherford or the King systems of ventilation. We will explain these later.

The litter and feed carriers are great labor savers. The track can be bought for 18 cents a foot, the hangers are 18 cents each and are placed every 3 feet. Extension hangers in high stables can be had to 25 inches. A 2-way switch costs $3.50 and a 4-way $4.50. The bucket costs about $27 with windlass.

A cow manger that is giving satisfaction. Note the individual manger, the convenient stanchion and the absence of wood in the stall.

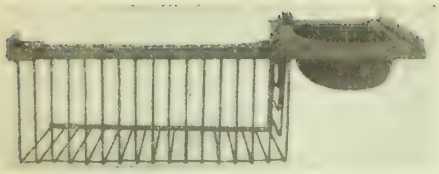
Light is one of the most important considerations in stable management. A generous supply of it is needed in the cow stable. In the majority of dairy farms there is a sad lack of sunlight. The old-fashioned basement barns with a few small windows near the top of the wall, allowed only a little sunshine and that to reach a very small area in the centre of the barn where it was not particularly wanted.

THE VENTILATING SYSTEMS.

In ventilation the King system consists of two sets of flues. One set provides the fresh air while the other furnishes an escape for the vitiated air. The intakes in this system should be placed not more than 10 feet apart and located in the exterior walls. The outlet may include one or more flues. The flues should be so arranged as to exclude cold air in winter and yet have the foul air removed. Fresh air intakes should have their outside openings below their inside openings and may be provided with a damper or valve. They enter the stable near the ceiling. Foul air flues in this system should reach to within one foot of the floor and have as few bends as possible and always be 2 or 3 feet above the roof ridge—the King system is a more or less mechanical one.

The Rutherford system, the natural one, and the one apparently best suited for Canadian conditions, brings the air into the stable at the bottom and sends it out at the ceiling. This is on the principle of the stove and works well. The inakes are built in the wall in such a way to prevent drafts or by means of tile under the floor from the outside and opening at convenient places. The outlet takes the warmed air from the ceiling to a cupola in the roof and is regulated by a valve.

The ventilator shafts should be non conductors of heat and are best made of materials of matched lumber, two thicknesses, with paper between. Allow 5% extra space in it, if there is a jog in the pipe. The size of the shaft is gauged by



This right-hand horse manger, 4 ft. 8 in., adjustable to 5 feet, costs $14.

allowing 14 sq. in. per head of stock as the face of the shaft. That is, ten cattle will need a shaft of 140 sq. inches or one about 12 inches square, inside measurement, and if a bend occurs in this shaft it will have to be increased. Prof. Grisdale finds 8 x 14 in. a good average.

The inlets, to supply air, demand 8 sq. inches per head. These 10 cattle will take 80 sq. inches. Thus 2 intakes 10 x 4 will work well.

The temperature of an ordinary stable is 75 deg. at the ceiling, 65 deg. at the centre and 50 deg. at the floor. In theory the carbonic acid gas does lie at the floor, but in practical working out, this is not the case as it is being constantly dissipated by air currents. It is more likely to be there under the King system and would require mechanical devices to draw it off.

To make a shaft, the farmer can get a 4 in. x 4 in. scantling sawed diagonally so as to have two triangles which make the corners of the shaft to which to nail the boards.

THE FLOORS.

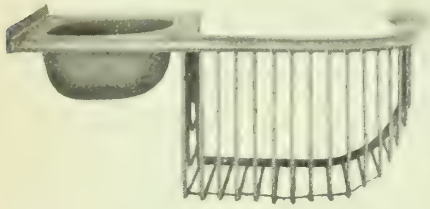
The most convenient stable floor is undoubtedly of cement. Where hay is stored above, the ceiling floor should be tight, of notched lumber, or sheet metal, to prevent seeds and dirt sifting down. Modern dairy barns demand cement floors above.

Some people fault cement floors because they are too slippery for stock and that the stall bottoms produce rheumatism. These faults are overcome by using a rough surface, not too sloping to the gutter in the floor and the liberal use of bedding in the stalls.

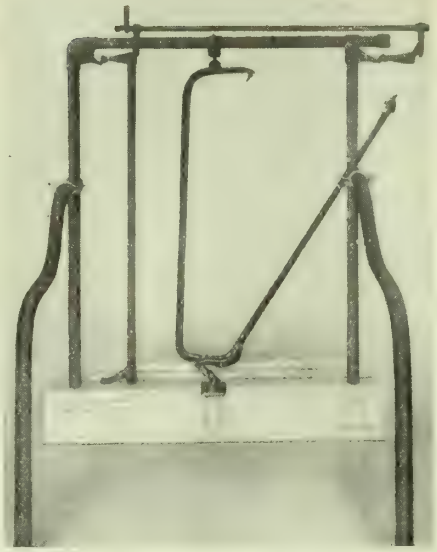
The proper slant for a cow stall is three-quarters of an inch to 5 feet. This may be roughed with a wire brush just as the cement is setting. Some use brick for floors, but they do not last anything as long as cement. No plank should be used in a dairy barn. The dampness can be gotten over by proper drainage under the cement. Some lay 4-inch tiles side by side as thick as possible under the concrete, thus giving a dead air space.

THE WINDOWS.

All stables should receive abundance of light. Some make the south wall almost a continuous window. Others alternate 3 feet of window with 3 feet of wall. This is particularly for the south, east and west walls. The north wall does not de-

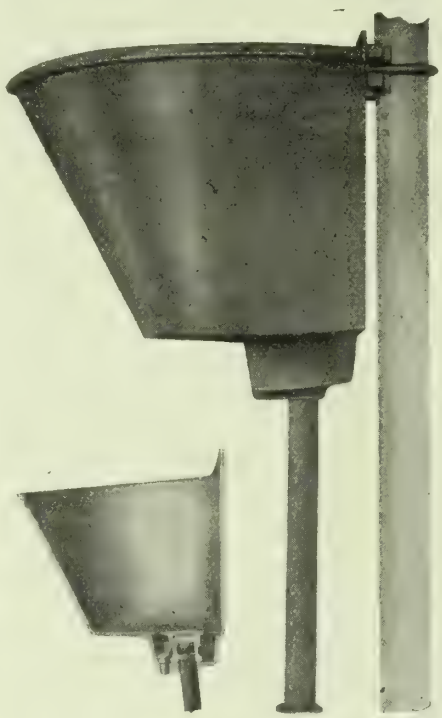


A left-hand horse manger for a box stall, costing $12.50 to $14. Horse cannot push oats out of the box or keep dirt in the bottom of the manger.

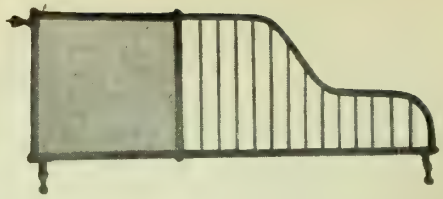


One type of steel stall set in cement. Note the stanchion rest, the sure-stop post to prevent cattle getting their heads into the wrong place, and the solid tubing. The galvanized tubing is best. Stalls are generally 3 ft. 6 in. wide and have a ½ inch slope to rear. Curb is 3 in. high. 4 feet 4 inches from floor to head reail under side. Stanchions vary in price. Generally run about $3.50.

mand so many, for silos, driveways, etc., take up this wall, more or less. One can hardly get too much light. Anything less than 4 square feet of glass per animal is too little. Have the windows deep rather than long, so as to get light to the floor and prevent accumulation of dirt. Iron



Waterbowls of all kinds are on the market and are easy to connect up with the pipes. Water in them is controlled by a float in a small tank on the same level. One bowl does 2 cattle. The inset picture shows how dirt is kept out of the pipe. Black bowls cost $2.60. Galvanized ones $3.25.



Guard for top of horse stall partition. In regular sizes and sold by the foot. Weight is 70 lbs.

rods can protect the glass. A good ventilating system will not require windows being opened during the winter. Opening a window from the top cools the moist air and causes dampness in the stable. Panes 10 x 12 in. are the stock sizes to use. Have the wall bevel in from each edge, or splay the ribet, as the architect would say.

Metal doors can be ordered any size now and come quite reasonable in price.

CONVENIENCES IN STABLING

Feed bins and chutes should be located as near to the mixing room as possible.

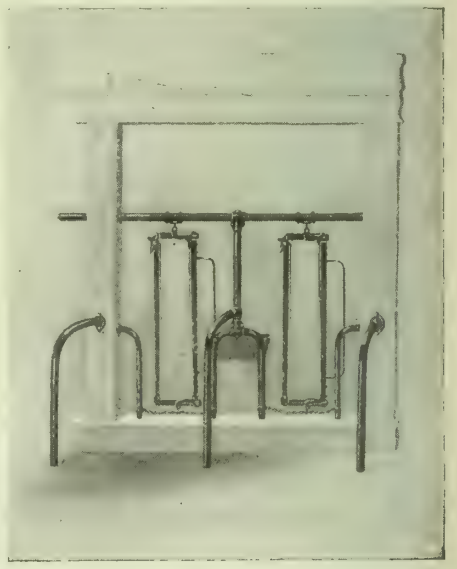
Hay chutes should be so managed that the hay can be gotten from the mow to the floor without filling the air with dust and without littering the alleys and feed room with dirt. Canvas chutes for conveying bedding will be found convenient. These can be folded and hung back out of the way when not in use.

Cupboards for harness should be provided convenient to horses.

Where possible, deliver the water directly to the barn for stock, and for washing vehicles and flushing the floors. Drainage of course, should be provided. Modern water systems are simple. The waterbowl for every two cows is generally used.

Manure conservation is another important feature of the modern barn. Where possible, it is best to have the manure hauled direct to the fields and spread. When this is not possible, a manure pit should be constructed.

A workroom for repair of harness and farm implements should be either in the barn or in a separate building.



Another form of stanchion installation on a wood frame. Any farmer with his own help, at all handy with tools can buy and put in these conveniences as he wishes.

Iron rings should be placed in the walls at places where they will be convenient.

Cupboards for curry combs and brushes can be built in the wall.

THE DAIRY BARN.

The building in which milk is handled should be separate from the stable. The floor and walls should be such that the hose could be turned on them and the whole cleansed thoroughly.

The single stalls for cows should be 3 feet 6 inches wide at least. The depth may be varied as to the size of the cows in the herd. Four feet 6 inches is used by many. The market offers large numbers of patented stalls and mangers, and devices for tying cows. There are strong reasons for favoring metal stall fittings and doing away with as much of the wood as possible; at the same time, there are many who cannot afford expensive fittings and must build of wood if the wood is at hand. Where it has to be purchased, there is very little to be gained by buying lumber.

The fall to the stall should not be over 2 inches in 10 feet. The distance from the manger curb to gutter for a 1300-lb. cow should be about 5 feet and 4 feet 6 inches for a 700-lb. cow. The stalls should be about 3 feet 6 inches wide. Some firms make adjustable stanchions that set the short animal back.

The gutter is 14 inches wide and 6 inches deep.

The manger is planned to be 2 feet wide and 6 inches deep with slightly rounded corners, the front sloping at an angle of 45 degrees and the bottom being 2 inches higher than the floor of the stalls. Many manufacturers of stable fittings advise a manger 2 ft. 6 in. from inside wall to the curb. The curb to be 3 inches and the front wall slants so as to allow the attendant's feet to go under. Galvanized mangers are made. Cement generally is favored for the bottoms. Water bowls are placed so that one bowl serves two cows.

The calf and bull pens should be about 10 ft. by 10 ft., although some allow the bull a 10 x 12 pen. Recent improvements make the bull pen a thing of safety, as a manger with a stanchion device goes with it, so that the bull may be secured and the pole snapped into his nose ring with no risk. The locking devices for the gates are well nigh perfect and it might pay to study all makes before final action.

THE HORSES.

Horses should be separated from cattle because the horse is more susceptible to disease than the cow and because the urine odor from the horse stable is highly objectionable in dairy barns.

The horse stable should be 10 feet high. Steel posts are found to be more serviceable for the stalls, as after a few years the wood posts are kicked into ugly-looking shape and are had to replace in a cement floor. These steel posts are made with grooves in them to take the 2-in. plank partitions. Steel stall guards for the top of the partitions are clean and give a good appearance.

As to mangers, the steel manger is the only one to consider. It combines every feature required and they are easily set up by the farmer himself. In fact nearly all the stable equipment of improved material can be put up by the farmer. Horse stalls vary in width from 4 ft. 6 in. to 5 feet.

WHY EQUIP THE STABLE?

There are three strong reasons outstanding that are plain to the progressive farmer, why more convenient and respectable stables and stable fittings should be installed.

First: They save time. Never before was the necessity of economising in the matter of time of more moment to the farmer. Useless steps, unnecessary hauling, carrying and unloading should be avoided. One man or boy can do, under a convenient system twice or even three times the work and not be tired out.

Second: They lighten the work and safeguard health of both attendants and animals. The sanitary arrangements mean dollars saved every year in feed bills, animal flesh and men's muscles and morals. Science and sunlight are real gold dust twins for the farmer.

Third: They are powerful preachers of farm life to the young folks. Perhaps there is no one thing that has driven boys and girls from the farm like the drudgery and desolateness of many farm stables, yards and outlooks. The abomination of desolation is a more fitting description of some feed barns, and it is little wonder the street lights of city flood the vision with the comparisons. Modern conveniences make the city possible. Modern conveniences will idealize farm life. The boy and girl will clamor for the free life—the big life—of a farm when things improve as they should.

HOW TO HANDLE CEMENT.

With the rapid decrease of the timber supply and the resulting increase in the price of lumber, the demand for concrete has increased greatly. Its durability, economy and safety from fire loss have all added to the demand. It is used for cellars, basements, stable floors, walks, driveways, steps, fence posts, and cisterns.

A small seed-cleaning plant in New Ontario. Note the small gasoline engine and elevator equipment.

Cement users have made costly mistakes by not informing themselves properly before beginning their work. The following materials are: 1 cement; 2 sand; 3 gravel or crushed stone; and 4 water.

Cement is only one part of a concrete mixture. The quality of the structure depends upon the quality of the cement, and the quality and size of the sand and gravel. Any kind of soil of a sandy nature will not do.

Sand is considered as including all grains and small pebbles that will pass through a wire screen with ¼-inch mesh, while gravel is the pebbles and stones retained upon such a screen. The sand should be clean, coarse and if possible free from loam, clay and vegetable matter. Fine sand requires about 7 times the amount of cement required by a coarser sand. If sand has to be washed the simplest way is to build a loose board platform from 10 to 15 feet long with one end 12 inches higher than the other. On the lower end and on the sides an edge 2 inches by 6 inches should be nailed to hold the sand. Spread the sand over the platform in a layer 3 or 4 inches thick and wash it with a ¾-inch garden hose. Start at the high end so water runs over the 2-inch strip at the bottom. By no means leave more than 10 per cent. of loam in it.

Gravel should be clean. Sometimes bank or creek gravel will answer the purpose of sand and gravel combined and can be used for some farm jobs just as it comes from the pit or creek. But it is best to screen both.

The water used should be free from acids or alkalis. The amount of water to use will vary and must be determined by the job.

Common proportions for Portland cement mortar are 3 parts sand to 1 of cement and for natural cement mortar 2 parts sand to 1 of cement. The proportions are always measured by volume.

To determine the quantities of each the number of cubic feet of concrete should first be calculated. Then multiply this number by the number under the proper column in this table and the amounts of cement, sand, and stone or gravel can be ascertained.

Mixture	Cement in bbls.	Sand in cu. yds.	Gravel in cu. yds.
1, 2, 4	.058	.0163	.0326
1, 2½, 5	.048	.0176	.0352

To color cement work use mineral pigments. Mix it with the dry cement before making the mortar. By preparing small specimens and noting the color after drying, the proper proportions may be determined. For gray or black use lampblack For yellow use yellow ochre; for brown use umber; for red, venetian red; for blue use ultramarine.

The time required for concrete to set depends upon the cement, the temperature of water and the air. Concrete sets quickly if mixed dry. In cold weather as little water as possible should be used. A common practice is to add 1 pound of salt to each 18 gallons of water.

A WOMAN'S APPRECIATION.

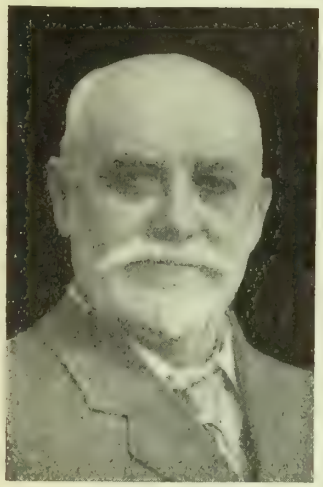
"I am well pleased with the FARMER'S MAGAZINE. It is the most useful I have ever received from any firm. Would not be without it on any account. I have all the old ones saved up."—Mrs. Sluggett, Bridgeland Dairy, Alberta.

Making the Cow-Barn a place of Delight

What Beatty Brothers of Fergus, Ont., are doing to help Canadian Farmers make more money with less Labor.

—By T. C. GRAHAM

TEN THOUSAND men on Canadian farms are day-dreaming about their business. They are picturing in imagination cow-barns of the perfect type —made of steel and cement, with the light



GEORGE BEATTY
President, Beatty Bros., Fergus
The Story of whose business is told herewith.

streaming in from many windows of spacious size, and good air abounding, and contrivances that lessen labor, save from fatigue, and quicken the doing of the day's work. They see this dream-barn a home of contentment for many cows and oxen, every animal a machine or factory, making milk or fat, to feed the nation's hunger.

Ten thousand men? Aye, more like ten times ten thousand—for farming to-day in every part of Canada is centering about the cow and the ox with their perennial power to change the grass of meadows, the corn of uplands, and the roots and grain of far-spread fields into milk and its products, and into beef, in the which lie gold and profits greater than in most other things which reward farmers for their toil.

Go to Fergus, Ontario, if you wish to see dreams come true. See there a great factory, growing ever greater, making stalls for cattle-barns, and carriers for feed and litter. See there in a sunny room men devising barns for those who value the wisdom of experience. See in office and shop hundreds and hundreds of busy workers, all made busy by the demand for the implements that make cow-barns places of delight and profit and the culmination of desire.

For at Fergus are Beatty Brothers, famed far and wide as makers of B T Equipments, Steel Stalls and Stanchions feed and litter carriers, hay tools, and many other things which ease the labor of farming and make it an occupation of profit and content.

I.
BY WAY OF HISTORY.

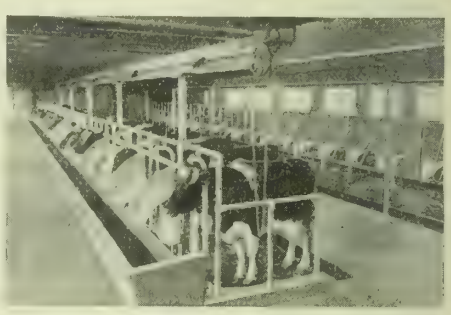
ARE YOU curious to know the story of Beatty Brothers? How they were led to enter their particular business? and how they have surpassed many others in Canada in their field of endeavor?

The story goes back many years—to 1873. In that year George and Matthew Beatty, brothers, established themselves in the village of Fergus in the County of Wellington, Ontario, to make reapers and mowers and other implements of common use. They made a good reaper, so good that they took it to Toronto one year to match it against other reapers at a National Exhibition, and lo! to their reaper was given the first prize and gold medal.

Then came the birthday of the self-binder, the new form of reaper which was to drive out the old type. Self-binders were more costly to make and sell than were reapers, and were hedged about with patents. Only great and wealthy firms could engage profitably in their manufacture, and this circumstance spelled doom for those who made reapers of the old-fashioned kind, and among these were Beatty Brothers of Fergus. That is, their reaper business was doomed but not their existence. The energy and genius that brought their business from small things to eminence and distinction of a sort remained; and pluck likewise remained, and patience. In due time came the day awaited and desired, a day of revival and expansion, a day of greater things.

The coming of this new day was through the sons of George Beatty—Will and Milton Beatty. Their history is unusual enough to make a reference to it. Both of them went to Toronto University —William to attend the School of Practical Science, Milton to take an Arts Course. Both completed their courses and bear the degrees which these courses give: Will is a Bachelor of Science, Milton a Bachelor of Arts.

One would be pardoned for thinking that these young men with the scent of the city in their nostrils, and with keys to gentle employments in their possession, chose careers different from the one they did choose. And what was the choice of these two sons of Fergus? They returned to their native town and to their father's factory. They doffed the habiliments of the city, and donned workmen's clothes.



Barn of Eugene Lang, Waterloo, Ont. Note manger, its partitions, and water bowls.

They shed kid gloves and went bare-handed, or wore mits and gloves of coarse leather. They sought no easy chairs in an office, and were careless about salaries. Together they loaded wagons with hay tools and travelled about their county and beyond, calling at farmers' homes, demonstrating their wares, and persuaded canny men to use their devices for saving the labor of man and horse, and to accomplish the quicker the gathering and storing of their hay.

The young men prospered, for they were thrifty and in earnest. Their business grew and favor for them grew. They gave value for money, and conferred benefits.

The influence of the firm in the hay tool business soon made itself felt beyond the bounds of the neighborhood of Fergus. It was not long before hay carrier outfits were shipped to more distant parts of Ontario. Presently they were sold in Quebec, the West, British Columbia and the Maritime Provinces. As the business grew, competing lines were bought out. The Oshawa line, manufactured by James Provan; the Whitman and Barnes line, made in St. Catharines; the Tolton line,

made by Tolton Bros., of Guelph; and, in more recent years, the Wortman & Ward line made in London; all these were purchased. Some of the best parts of these lines were retained and remodelled to round out the B T line.

II.
THE COMING OF THE SANITARY STABLE.

ABOUT this time was born on this continent the idea of steel stanchions and stalls for cattle stables. The Beatty Brothers took up this idea in Canada.

B T Mangers are easy to clean. They have no bottom, a concave trough in the floor serving that purpose. Manger front and partition are in one piece, and the whole row of mangers is easily lifted by an endless chain windlass, leaving only the smooth, continuous concrete trough, which is readily swept and cleaned.

So rapidly did the new business grow that the making of mowers was dropped (the making of reapers had already been abandoned, for reasons noted), and a full energy was given to the making of equipment for barns and stables—hay carriers, feed and manure carriers, and sanitary steel stalls and stanchions.

To-day the modern study of efficiency, as applied to human workers, calls for light, fresh air, absence of noise, well-regulated temperatures and thoroughly sanitary conditions. It has been demonstrated a thousand times that more work, and better work, result from an observance of the laws of hygiene and sanitation. And in lesser measure dairymen and breeders and feeders have proved that the best results at the lowest cost come from a faithful observance of the laws of health as these pertain to cattle.

III.
A BARN-PLANNING SERVICE.

BEATTY BROTHERS, in order to sell their merchandise, have been forced to give the farmer a service of an unusual sort; namely, a barn-planning service.

This has meant the engagement of a skilled architect and assistant draughtsmen—men who have specialized in barn construction. These men study barns and know thoroughly the wants and needs of farmers. They are able to give fine help to farmers about to build barns or remodel old ones. And the attractive feaure is that they give farmers preliminary suggestions for *nothing*. Equal and similar assistance, if sought for otherwise, would cost a farmer $15 or $25, but Beatty Bros. offer this service without charge. They do this because in the great majority of cases the farmer goes ahead and follows the plans supplied; and in so far as the stables are concerned, these call for the B T equipment. So Beatty Brothers receive their desired recompense. If full working plans, on a larger scale, are desired, then a moderate charge is made; but suggestions are furnished gratis.

IV.
SOME THINGS TO KEEP IN MIND.

ONE COULD go on telling at length the many things Beatty Bros. are doing to help farmers—particularly dairy farmers; but time and space forbid, here and now, any complete account of all the service given and special equipment made by this firm.

Beatty Bros,' first idea is to make equipment which will give lasting satisfaction. There is nothing flimsy in their line. Their goods are solid and serviceable. B T goods are noted from coast to coast for being reliable, and reliable goods are, in the long run, the cheapest.

Before going into the galvanizing bath, every piece of iron pipe and every clamp and color is cleansed by chemicals and by hand labor, from grease and rust. The process is tedious, but is absolutely necessary if perfectly galvanized tubing and parts are to be produced. If any part fails to receive its due deposit of zinc, then rust will form, and where rust is, trouble develops.

All B T tubing is galvanized, and this is a point that buyers of tubing for stalls should give heed to, for not every maker galvanizes his tubing, and when price comparisons are made, frequently the ungalvanized tubing is matched against the galvanized article. What price difference there may be for galvanizing is generally worth paying, for it represents economy in the long run.

There are other points about tubing to remember: diameter, weight to the foot and, grade. Unless you are mindful of these points you may be led into buying something poorer than you desire or should have. For example, 1-inch tubing is obviously less strong than the B T tubing which is, for stalls, 1⅞ in. diameter. Light tubing will not resist fire, nor the weight of animals, nor the knocks that are inevitable.

B T stalls—posts, head rail and partitions—are made of full weight 1⅞ solid welded tubing, which is 40% heavier than the grades sometimes supplied. This tubing weighs 2.69 pounds to the foot.

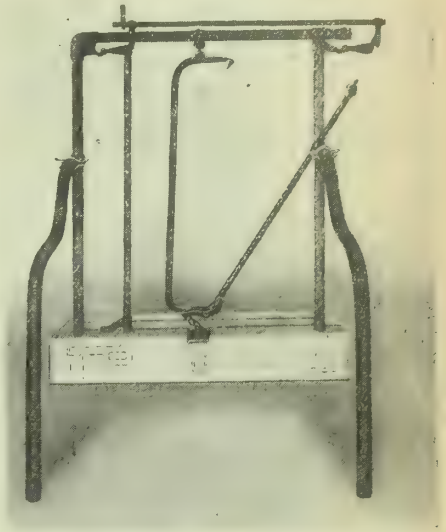
B T stanchions are made of heavy high carbon U-bar steel, 5-32 inch in thickness.

These points are noted for their informative value and in a warning way, since many a man about to install steel equipments may not be aware of the advantages of galvanizing and tubing of substantial weight and large diameter.

Cow barn designed by Beatty Bros. 158 x 38 feet, with feed room 38 x 16 feet and two silos. Provides accommodation for 80 cows. Complete plans, lumber bill and specifications will be supplied by Beatty Bros., who also design barns and provide suggestions for the remodelling of old ones, according to farmers' special requirements or conditions.

V.
THE B T SANITARY STABLE EQUIPMENT.

THE perfectly equipped stable is furnished with B T water bowls. These are deeper than those commonly seen—made deep so that there shall be in them always ample water to satisfy the thirst. Shallow bowls have this against them: if they are not all placed at a common level, the water supply in those that are placed high is inadequate, and thirst is but partially quenched. The B T bowls, being deep and commodious, always contain plenty of water, even though there be unevenness in their levels.

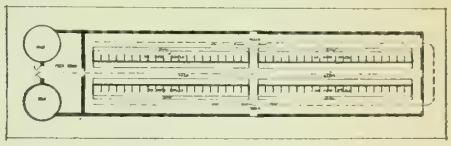


B T Steel Stall. Stanchion open to receive head of cow. Note that head cannot go into any other opening because of the B T Sure Stop Post. Note, also, the B T Stanchion Rest for the open leg.

These B T water bowls are strong—they weigh 20 lbs. This means that they are not easily broken. Besides, they are simple in construction, and are easy to clean. The pipes never clog, valves do not break or rust. The time-saving features of the B T indoor bowl system are apparent, and must appeal strongly to farmers compelled to liberate their cattle for watering.

B T STALLS AND STANCHIONS.

The B T stanchions have many merits. The hinged leg opens far and locks automatically when swung to the shut position.



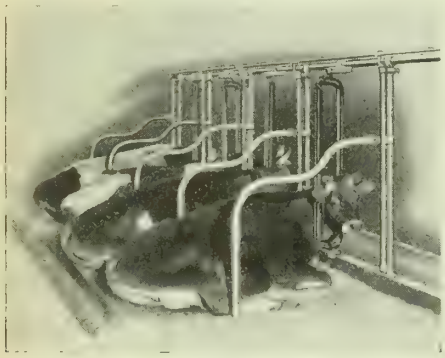
The B T stanchion is heavier than the usual run of stanchions and simpler in construction. It is made of U-bar which weighs 1 lb. per foot. Some stanchions are made of steel tubing. A mechanic will tell you that U-bar stands greater strains than tubing even of the same weight and diameter. The moving leg

falls to the floor if the cow steps on it and cannot be broken as can stanchions which do not open out completely. The stanchion is side-hinged and is, therefore, stronger than stanchions which are hinged in the center; for a stanchion must always be attached in the centre and to attach and hinge at the same place means weakness. The stanchion is hinged and locked on the side and is, therefore, more easily opened with one hand.

Still another notable feature of the B T stanchion is the device at the top by which the rump-end of animals may be brought into alignment. Thus a short animal can be set back and a long animal brought forward.

The advantage of this alignment is that cows are kept close to the gutter so that their droppings will fall into the gutter.

Steel stalls are so easily installed that, when they are used, a barn can be remodelled or a stable put in with much less work than would be expected by a farmer



Cows resting. The B T Triple Curve Partition prevents cows from intruding on each other's stalls. Note the B T Aligning Device on headrail, which gives even line of rump-end of animals at the gutter.

who has seen stables fitted up the old way. The stuff is completely manufactured in the factory and needs only to be assembled to be made ready for the cows.

B T FEED AND MANURE CARRIERS.

Now a word or two concerning feed and manure carriers. Does anything need to be said in praise of the carrier system of conveying feed to cattle, or litter to barn yards? By contrast with the old way, the new way seems child's play. The old way of feeding means innumerable journeys along the feed passage, and many journeys mean time. The old way means much straining of back, loins and arms—and there are many farmers to whom such effort means pains, exhaustion and a shortened life. The new way reduces journeys, makes machinery carry the burden, and enables a man to do the feeding in a fraction of the time required by the old way.

THE PERFECT COW-BARN

Beyond the intrinsic advantages of steel and cement over wood, and the time and labor saved in the feeding of stock and in the cleaning of stables, are these other advantages: the better health of cattle; the greater milk yield; the better price paid for milk produced in a sanitary stable; the prevention of tuberculosis in cattle (the result often of wood construction), bad air and light and poor ventilation; and the satisfaction the farmer himself has, and his family, and his hired help, in stables constructed according to the best ideals.

I may not say anything here and now about B T hog pens, calf pens, bull pens and horse stalls; in all of which the B T galvanized tubing enters, and the B T ideas and genius. All I can do is to suggest these things, adding this: if you are interested, Beatty Brothers have printed

The B T Manure Carrier does away with the drudgery of stable-cleaning. It runs along a level overhead track, and goes smoothly with the biggest load. A boy can push it, for all the weight comes on the track, and there is no heavy lifting. This carrier is fully described and illustrated in the B T Barn Book, which is sent free on request. This book is the finest thing of its kind ever published, and every farmer should have it.

matter, admirably illustrated, to tell you about these things, and they will gladly send it gratis.

VII.

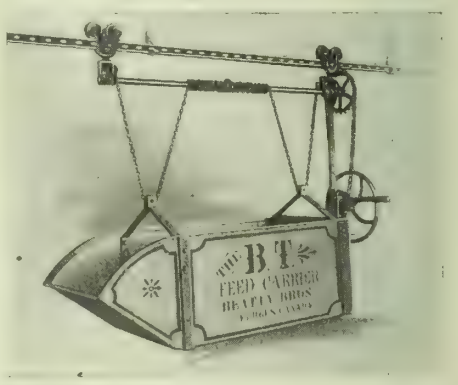
THE GROWTH OF BEATTY BROTHERS.

BEFORE I close this sketch of Beatty Brothers, and this plea for better cow barns, I want to add something about a business of theirs now at London, and something more about themselves.

Some years ago they purchased the business of Wortman and Ward, London, Ontario, makers of farm pumps, churns and washing machines. Beatty Brothers have greatly enlarged the output in these three lines, the result of their larger selling organization and of the energy they put into everything they undertake. The plans are to manufacture these three lines in Fergus; and just as soon as factories can be erected, the plant at London will be transferred. This centralization of manufacture and distribution is called for for economy's sake.

Referring once more to the personal side of the business, it is to be noted that of the founders of the business, George Beatty alone survives. He is president of the company. Associated with him, as officers and directors, are his two sons, William and Milton.

So extensive has the business grown that it has been necessary to establish warehouses in Winnipeg and Edmonton in the West; and in Montreal and St. John in the East. Here full stocks are carried



The B T Feed Carrier saves time and labor—infinitely better than the old-fashioned way of baskets, requiring many trips back and forth to root cellar, silo or feed room. The B T Feed carrier runs on a system of overhead tracking, but where passages are smooth and level a floor truck may be used. B T Feed Carriers are fully described and illustrated in the B T Barn Book. Sent gratis to farmers applying for it.

and each depot has its own management and selling organization. Both salesmen and agents co-operate with farmer customers in the installation of equipment—a service greatly valued by those to whom it is rendered.

One contemplates with satisfaction the good and great work Beatty Bros. have done, and are doing, for the upbuilding of the dairying and stock-breeding and stock-raising interests of Canada. Colleges and demonstration farms do much, but there is a point beyond which they cannot go. They can give counsel and can teach, and can provide proofs of the soundness of their teachings and methods, but they cannot design barns and stables for those who need them, nor provide and instal equipment. This practical and necessary service falls to the lot of firms like Beatty Brothers; and it is to the everlasting credit of this Fergus firm that it has seen its opportunity in all its fullness, and has met the national need and the demand magnificently. To them, along with governments and professors and leaders in dairying and agriculture, belongs much of the honor and the praise for Canada's high position among the countries of America and Europe as a producer of milk, cheese, and butter, and of cattle, as food for the peoples of two hemispheres.

FREE!

To every man who is building or remodelling his barn

THIS BT Barn Book shows you how to build your barn from start to finish; tells how to lay the cement floors, foundations, and how to build the walls; shows how to install an effective, inexpensive ventilation system, and build the cupolas for the roof of the barn. It shows you how you can frame your barn by a method that saves half the cost of the old way. You can build or remodel your barn yourself with this book.

This new 336-page book

It is the most elaborate and complete book on barn building ever published in Canada. It contains 336 pages and over 75 views of modern barns. Photographs of up-to-date dairy barns were obtained in all parts of this country, and have been reproduced with full-page and double-page cuts, which show clearly every detail of construction. There are useful tables, showing the best measurement for mangers, gutters, cattle-stands and passages; costs of cement work; best sizes for doors and windows; amounts of ventilation for different kinds of stock; capacities of silos; capacities of mows. There are also working plans for 14 different barns and exterior views of the completed barns.

BT Galvanized Steel Stalls, Steel Horse Stable Fittings, Steel Cow Pens, Calf Pens, Steer Pens, Bull Pens, Manure, Feed and Hay Carriers, and Water Bowls are shown in actual use in many of the barns.

A copy of it should be in the hands of every man who is thinking of building or remodelling a stable, or who is going to put in sanitary stalls or labor-saving fittings.

Mail Coupon

Thousands of dollars were spent in obtaining information, plans, photographs for this book and in printing it.

Yet we offer it without charge to any man who will write and state if he is building or remodelling, when he expects to start the work, and the number of head of stock he keeps. Simply fill in the blanks of the coupon, and you will receive the book by first mail. You do not obligate yourself in any way.

Beatty Bros., Limited

M214 Hill Street **FERGUS, ONTARIO**

FREE COUPON

Beatty Bros., Limited, M214 Hill Street, Fergus, Ont.

Gentlemen: Send me your new 336-page barn book, without charge or obligation. I have filled in the blanks below.

Are you thinking of building a barn?.....

If not, are you going to remodel your barn?.....

.....

When will you start?.....

How many cows, horses or young stock will you keep?...

.....

Are you thinking of putting in Galvanized Steel Stalls?....

Steel Horse Stable Fittings?.....

Manure Carrier?.....Hay Carrier?.....

Your name.....

P.O. ..... Prov.....

God's Green Country

A Tale of the Ups and Downs of Country Life

By ETHEL M. CHAPMAN

CHAPTER VI.

WITH the unfolding of the willow-buds at the edge of the marshes, and the high, warm sun piercing the March winds, came a change to the Swamp Farm. When every growing thing was stirring into life, happy in its blindness to the rigors of seed-time and harvest and the burdens incident to its later family life, Mary found that her battle was nearing the end. The world was very dear to her too; the oldest and most enduring of human hopes, the possibilities of her children, was beginning to promise the things she had dreamed of —and she wanted to live. But one day she crumpled up like a wilted leaf over a dress she was making for Jean's Commencement, and Billy put her to bed and called the specialist.

"There's nothing I can do," was the hopeless response.

"There must be. I'll meet you," came back over the wires in a voice sharp and hard. And the specialist came.

It was Billy's first experience of coming up against a situation where he was absolutely powerless. He blamed himself that he had been too blind to see it coming, that he had ever left her to take alone the hardships and worries that made such a large part of the life of the desolate place. He unburdened these confessions to the specialist with shame and bitterness.

"It wouldn't have made any difference," the doctor said, "and there's nothing you can do now, except to make the waiting easier. I'm just as helpless as you are. It was too late to do anything even when she came to me first. To have saved her I should have been here years ago, when her last child was born."

Billy went back to the day whose details would always haunt him, when his angry little soul had cried out against it all—but there was no room for the bitterness in his heart now—only a cold gripping dread, a dread for her, for the suffering and the heart-break of the leave-taking. The thought of going out, was something, that, in his own young, physical courage he could not take philosophically.

"Will she suffer?" he asked.

"The worst of her suffering is over. Kept it hidden pretty bravely, hasn't she?"

"Does she know?"

"She knew when she left my office that it couldn't be very long. She hasn't let it shake her grip of herself yet, and she won't. After all, there comes a time when none of us can hold life for a minute; the one thing we can do, is to make it as good as we can for the people we live with while we have them."

And then the old troublesome hate came back savagely. Billy knew that as long as he lived, he would have hard memories to fight. When he was alone he waited miserably outside, wondering how he could go to her, but as usual she understood and called him.

"I just wondered," she said, "if you would take Jean's dress to the dressmaker, so she can have it finished in time. I think I'd better not try to sew for a while, and I wouldn't like her to be disappointed.

So the days went on without a word of what was to come. Auntie Brown took up her residence in the house. Dan accepted the situation with stoical resignation while he was at home. He couldn't feel that it was as serious as the rest supposed, but he made an unprecedented attempt at kindness. In spite of his assumed optimism, he had a sinking feeling that something which had contributed indispensably to the background of his life was going to be taken away, and the whole picture would be thrown out of balance. He kept away from home a little more than usual, explaining to his friends in pathetic lapses of despondency that he had to get away to get his mind off things.

But Billy stayed at home constantly. He could always be found within call of the house, and notwithstanding his young terror of the inevitable, managed to maintain the kindest sort of cheerfulness in his mother's presence.

Her own fortitude puzzled him. Here and there she dropped many little suggestions for the years to come, but she never spoke of leaving them. Then one day she gave him her philosophy, pointed it out to him on the worn page of a Bible—*"If thou hast run with the footmen and they have wearied thee, then how canst thou contend with horses? And if in the land of peace wherein thou trustedst, they wearied thee, then how wilt thou do in the swelling of Jordan?"*

Billy had never heard the quotation. It struck him as pretty strong thinking, a real man's philosophy for every day living—something he wouldn't have expected to find in the Bible. He handed the book back soberly, but without a word; he didn't know what to say. He was not sufficiently sure of the theories so popular with students making their elementary dip into the sciences, to be irreverent, but the Bible opened for discussion on week days embarrassed him.

His mother watched him anxiously, then taking courage said:

"'You won't think I'm preaching to you? I know I can't understand how a young man looks at things, and I'm not questioning how you feel—but I just hope you'll think about it. You've had a lot of hard things already; there may be more ahead, and I'm afraid for you—not that I think you'd fail where any other man wouldn't, I feel very safe about you in things that most mothers have to worry about—but it's too hard for any one to hold out alone. You'll think about it?"

Billy turned down the leaf by way of assurance. It was the best he had to offer.

A few days later she left them. The turn came suddenly. A nurse was brought down from the city, and with this professional help in charge Dan said goodbye awkwardly each morning and drove off; the strain of things at home made him nervous. It was Billy who stayed day and night within hearing of the room, whose awkward boyish care astonished the nurse with its gentleness and forethought, and it was Billy who steadied the spent, trembling soul in its last great weariness.

All day he had watched the tired eyes closing wearily, only to return with troubled anxiety to Jean, and he had always assured her that he would not forget her plans for the little sister. Then, as the mists began to come over, she looked up again, with an effort, searching for something.

"What is it?" he whispered.

"Where—is your father?"

It was the old, human cry of loneliness, and Billy realized as he had never done before, what she had been starving for through all the years. Whatever Dan might be to any one else, to her he was the person she had lived for first; she wanted him now and no one knew where to find him. Unless by chance he returned in the next few minutes it would be too late. Even now when he had not considered the hours precious enough to wait with her, she was anticipating his need of her, thinking ahead for him, with the pure maternal love that rises above personal considerations. Painfully she left her last request with Billy.

"You'll try to forget . . . to think of him as I do?"

And Billy promised. He would have promised anything, and having made a promise he knew he would keep it, whether it seemed impossible now or not.

Then the frail little form settled down close against him, and with the weariness of a hard day ended, the last light flickered and went out.

Three days later when it was all over, and they had come back to the empty house, when Jean had cried herself to sleep and Billy could go out alone to think, Ruth Macdonald came. She had seen the announcement and had come at once, but when she reached the churchyard everyone had gone, so she came to the house and found Billy alone behind the mat of vines screening the little wooden porch. There was a hardness in his set face, the traces of a fierce battle going on inside. He was still trying to overcome the hate that possessed him.

"It isn't that she had to go," he said, bitterly, "it's the kind of life she had."

Ruth didn't say anything. She looked away for a while, then she looked back, and there was a compassion in her misty eyes that Billy had never hoped to receive again, since his mother had gone. And somehow the hardness toward his father and life in general began to melt. He leaned against the wooden rail with his face covered, and Ruth listened silently to the dryest, hardest sobs she had ever heard, listened until it wasn't in her nature to wait any longer. For the hour he was only a broken-hearted boy and the mother instinct was strong in her. She bent over him as she would to comfort a suffering child, and ran her firm supple hand through his hair. And because Billy couldn't speak just then he covered the hand with his own and held it there to show his gratitude. Beyond that he was unmoved, but the girl was startled by a quick hot rush through her young body. She wormed her hand away and looked over the fields for a minute away from his stare of bewilderment, after that she was herself again. But long after Billy was asleep that night she

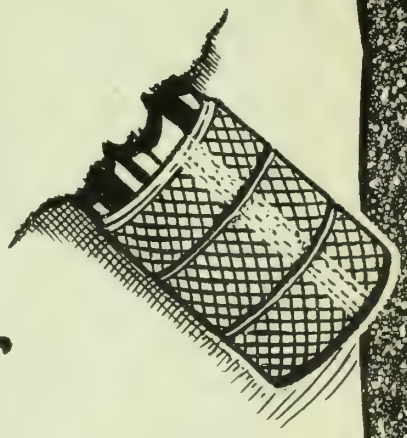
Continued on page 36.

Why shouldn't you

enjoy, in your own home,

as smooth, clean and comfortable a shave as the city man, or as anyone else in this broad Dominion? Why shouldn't *you* own and use the keenest, speediest, most convenient shaving tool in the world—the

GILLETTE Safety Razor



The thin Gillette Blades, electrically hardened, honed with Diamond dust, stropped in wonderful automatic machines, *carry an edge whose uniform, lasting keenness has never been matched.* The curved Gillette head holds them rigid—guarded—adjustable by a turn of the handle for a light or close shave.

With the Gillette there's no need for honing, stropping, or careful working round the chin or angle of the jaw! There are no preliminaries—*the razor is ready for business*—you just pick it up and shave, with the easy angle stroke, in five minutes or less.

The Gillette "Bulldog," "Aristocrat" and Standard Sets Cost $5—Pocket Editions $5 and $6—Combination Sets $6.50 up. At Hardware, Drug, Men's Wear and Jewelry Stores.

Gillette Safety Razor Company of Canada, Limited

Office and Factory: GILLETTE BUILDING, MONTREAL

220

THE NEW DE LAVAL

A Bigger and Better CREAM SEPARATOR

THE FARMER who buys a De Laval this year will get a bigger and better Cream Separator than ever before.

Not only will he get a better machine, a simpler machine, a machine that will skim even closer than any previous De Laval, but he will get a machine of larger capacity.

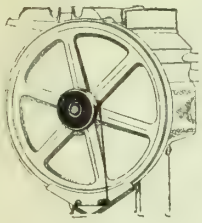
The NEW De Laval is the culmination of nearly forty years of experience and development by the largest and oldest cream separator concern in the world. It represents

The greatest improvement in separator construction in the last thirty years

If you are trying to get along without a cream separator, or with a half-worn-out or unreliable machine, why not get a NEW De Laval NOW and stop your cream waste? You don't need to count the cost, because the De Laval will soon pay for itself.

There is a De Laval agent near you who will be glad to explain all the improvements and advantages of the NEW De Laval, and who will set and start a machine for you on your farm and let you try it for yourself.

If you haven't the spare cash right now, that need not stand in the way of your having the use of a NEW De Laval the rest of the winter. We have an arrangement with De Laval agents which makes it possible for any reputable farmer to secure a De Laval on the partial payment plan—a small payment at the time of purchase and the balance in several installments—so that your De Laval will actually pay for itself while you are using it and getting the benefit from it.



Every NEW DE LAVAL is equipped with a Bell Speed Indicator, the "Warning Signal" which insures proper speed and uniform cream.

Why not see the nearest De Laval agent at once? If you do not know him, write to the nearest office for any desired information.

THE DE LAVAL COMPANY, Limited

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA.

Sole distributors in Canada of the famous De Laval Cream Separators and Alpha Gas Engines. Manufacturers of Ideal Green Feed Silos. Catalogues of any of our lines mailed upon request.

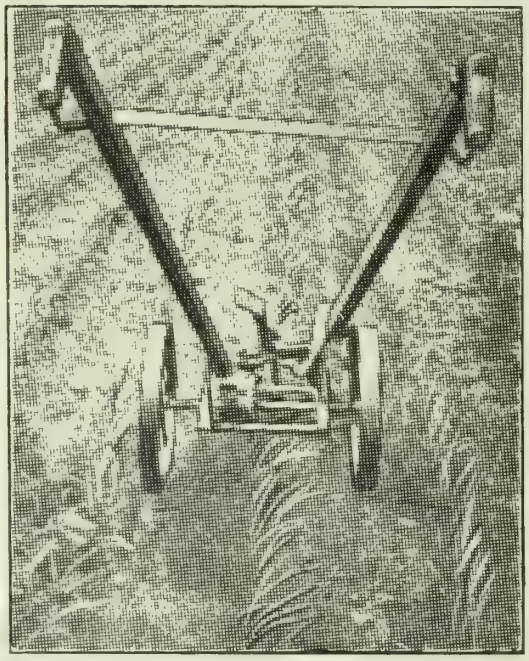
MONTREAL, PETERBORO, WINNIPEG, VANCOUVER
50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER.

The Bruner Onion Weeding Machine

Use this machine and grow Onions for profit.

The Bruner Onion Weeder is one of the greatest labor-saving tools ever put into an onion field. It enables one man to do the same amount of work as it takes ten men to do by hand. It gets the weeds out that are directly in the onion row.

Write to-day for detailed information telling the advantages of the "Bruner" for making profits from your onions. Do it now in case you forget.



R. G. BRUNER MFG. CO., Ruthven, Ontario, Canada

Dairy Facts

Continued from page 8.

ally being done in Oxford County, where for the factory season is 4,500 lbs. of milk. If Lennox and Addington would move up to that standard a quarter of a million dollars would be added to the annual income of the dairy farmers of those counties.

Figures showing total production are impressive, but after all the thing that really counts is how is the average producer getting along. Does dairying pay the average individual farmer engaged in this line? A very satisfactory general answer is given by Mr. Ruddick when he says that "those districts where the production of milk has been most consistently and extensively followed are the most prosperous." And Mr. Ruddick is undoubtedly right. Oxford, with an annual dairy income of $3,000,000 is the banner dairy county of the Province, and in no other county of Ontario will you find such general evidence of prosperity.

Further support of Mr. Ruddick's contention that dairying pays the individual farmer is seen in what Mr. Publow said in his report to the Eastern Ontario Dairy Convention. In the last year, Mr. Publow said over $87,000 was spent in building new cheese factories or improving old ones in Eastern Ontario. In the same time 607 silos were erected in the territory in which to store feed for dairy cows. People do not spend money this way on an industry that is not a profitable one.

A word as to the outlook for the future. The chief market for our surplus butter and cheese is in Great Britain. Our principal rivals in butter in that market are Holland, Denmark, Sweden and Australasia, our chief rival in cheese is New Zealand. Last year British imports of butter totalled only a little over one-half what they were two years before. This was not because of lack of demand in the United Kingdom. Demand there was never before so keen. The contraction in British dairy imports was due to the fact that last year Sweden, Denmark and Holland were supplying Germany with dairy products such as had formerly gone to Britain. Dutch exports of butter to Britain dropped from 179,900 long hundredweights in 1914 to 29,842 hundredweights in 1916; that from Sweden shrank from 255,747 to 992 and the Danish supply dropped to the extent of nearly 600,000 hundredweights. John Bull is not likely to forget that countries which found in him their best customers in peace times neglected him to supply a rival in time of war. Hence Canada will have a sentimental preference in the British dairy market, when peace comes, as against Holland and the Scandinavian countries. She will have an artificial advantage over Australasia in the same market by reason of the fact that distance is so much in her favor, a most important consideration in view of the shortage of ships that will exist after the war. And from these circumstances there is the fact that dairy herds, like all other classes of live stock, are being greatly reduced by war. "Taking one consideration with another," therefore, the outlook for Canadian dairymen was never brighter than it is on the threshold of 1917.

Don't Buy Fence in the Dark!

Know What You Are Getting

WHEN you buy FROST FENCE you have the privilege of going to our dealer and examining the fence before you pay out any good money for it. This method is much more satisfactory to you than ordering by mail, or "buying in the dark."

LOOK FROST FENCE over before you decide to take it—see the rigid manner in which the **Frost Lock** grips the line wires and stays but does not kink or weaken them. You will see that the entire fence is made from full No. 9 gauge wire—evenly and heavily galvanized.

SURELY you will appreciate the value of being able to examine fence thoroughly before buying—this is the **FROST** method of doing business.

COMPLETE fencing supplies — We make all styles of farm fence also lawn fence, both iron and wire; gates all styles and sizes; coiled and soft wire, galvanized and bright wire, hay wire, bale ties and staples. Our complete wire output is drawn, galvanized and made into finished materials in our own wire mills at Hamilton.

Send for our new catalogue to-day

FROST STEEL AND WIRE CO., LIMITED

HAMILTON, CANADA

THE MINISTER OF FINANCE

REQUESTS

THE PEOPLE OF CANADA TO

BEGIN NOW

TO SAVE MONEY FOR THE

NEXT WAR LOAN

JAN. 9, 1917

DEPARTMENT OF FINANCE
OTTAWA

MAKE YOUR DOLLARS

FIGHT

AT THE FRONT.

BUY

DOMINION OF CANADA

THREE-YEAR

WAR SAVINGS CERTIFICATES

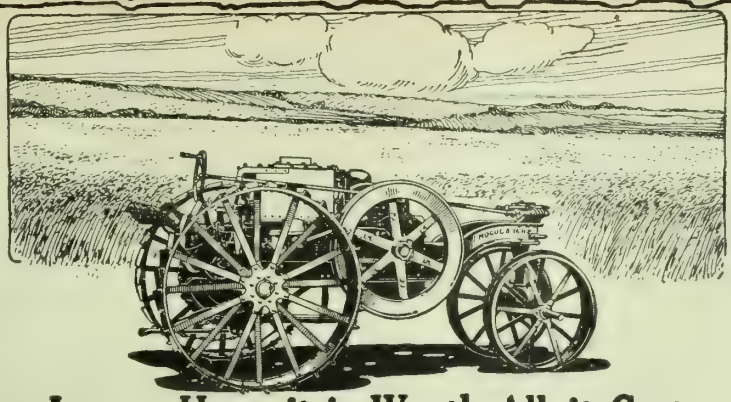
$ 25.00	FOR	$21.50
50.00	"	43.00
100.00	"	86.00

INDIVIDUAL PURCHASES LIMITED TO $1500.

FOR FULL PARTICULARS APPLY AT ANY BANK
OR ANY MONEY ORDER POST OFFICE

JAN. 9, 1917

FINANCE DEPARTMENT
OTTAWA



Just to Have it is Worth All it Cost

THE chief value of a **Mogul 8-16 kerosene tractor** lies in its ability to do the heavy work of seed bed preparation, harvesting, threshing, silo filling, husking and shredding — better, quicker, and cheaper than horses can. You will be able to dispose of some horses when you buy your tractor, but even if you don't sell a horse, it's worth while to have a Mogul tractor. It's a cheap, practical insurance against late planting, harvest losses, and delayed marketing. To quote one of our 1915 customers, "It's worth all it cost just to have it on the farm."

A **Mogul 8-16** is not an expensive machine, either to own or to use. It costs less than the horses whose work it does. It does good serviceable work at all loads, operating on cheap kerosene. This feature makes it the cheapest of all known farm power. With it one man can do fully as much power work as two without it.

Now is the time to write us for catalogues telling about the **Mogul line** of **real kerosene tractors.** Get your tractor delivered ahead of the spring rush. Write to us for catalogues now while you think of it. Address the nearest branch house.

International Harvester Company of Canada, Limited

BRANCH HOUSES

WEST — Brandon, Man., Calgary, Alta., Edmonton, Alta., Estevan, Sask., Lethbridge, Alta., N. Battleford, Sask., Regina, Sask., Saskatoon, Sask., Winnipeg, Man., Yorkton, Sask.

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Raise Your Calves on PURINA Calf Meal

As the guaranteed analysis shows, it is composed of all the necessary ingredients so combined as to maintain the proper proportions of Protein, Fat, Carbohydrates and mineral matter found in new milk.

Protein - -	33%
Fat - - -	4%
Fibre - - -	3.5%

PURINA Calf Meal

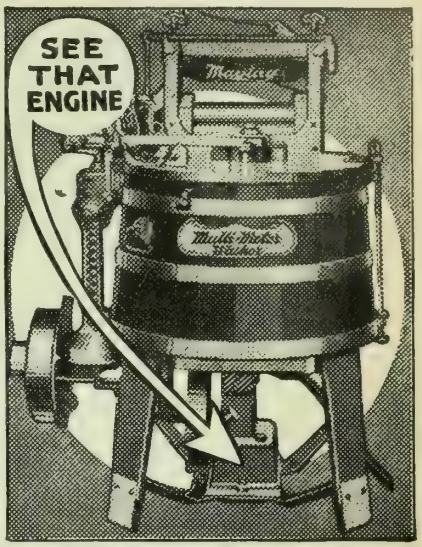
is a scientific blending of all the elements required to meet the natural demands and is a perfect substitute for fresh milk. Send for Purina feeding chart. Insist on the Checkerboard bag.

FOR SALE BY ALL RELIABLE DEALERS

The Chisholm Milling Co. Limited, Toronto

Sole Canadian Manufacturers of all Purina Products

Man---Have a Heart



Maytag Multi-Motor Washer

Complete with Engine and Reversible Swinging Wringer

It Does All the Hard Work of Washing and Wringing For You.

WASH-DAY, and that is **WORK-DAY,** changed into **PLAY-DAY.** Goodbye backache, headache, nerve wreck! No woman need bend over the wash tub as her grandmother did, nor turn the old-style washer as her mother did, if she has a **MAYTAG MULTI-MOTOR.**

This Washer takes up no more room than an ordinary wash tub, and can be used in the kitchen, laundry, dining room, on the porch, or out in the yard. It requires no belts, chains or pulleys, no electricity or water power, and no waiting for the men to bring their engine from the barn.

MAYTAG MULTI-MOTOR WASHER, **complete with Engine and Reversible Swinging Wringer,** is splendidly made of the best materials, and is guaranteed against defects for a period of THREE YEARS, and this warranty covers the washer, wringer and engine. This is not an ordinary washing machine, but something new, with exclusive patented features that no other washer has or can have.

Equipped with a light, powerful, compact little engine that does all the hard work of washing and wringing, and does a bigger, better and cleaner washing in an hour or two than you can possibly do with a wash board and tub in a day's time.

Drop us a postcard and we will mail you a copy of the Maytag Laundry Manual that contains many practical formulas and receipts that can be used to advantage in any home. It is free.

The Maytag Company Limited

WINNIPEG - MANITOBA

Farmer's Needs

Experience has shown that it pays us to carry a complete line of goods required by the farmer, thus enabling him to order his requirements from one source.

This saves you time, expense and worry. Look over this list of our goods:

Harab-Davies Fertilizers

Harab Poultry Feeds
Digestive Tankage
Harab Stock Feeds

Spray Materials Manure
Agricultural Lime, etc.

Write for free booklets for further information.

"Experience has shown that the right use of fertilizers, barn manures, proper tillage, good seed, crop rotation and liming when necessary, insure farm prosperity."

Ontario Fertilizers Limited
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Don't Worry Over the Shortage of Help!

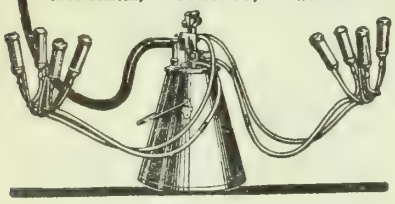
Though you have to get along with less help since enlistment has made men so scarce, you can still keep as many or even more cows if you instal an

EMPIRE
Mechanical Milker

One man with a double unit "Empire" Milker can milk from 10 to 15 cows in half an hour—and keep it up! As one man can handle two double units, milking becomes a short and easy job instead of a long and tedious one. Think of the wages it will save!

Write for Illustrated Booklet. Just say "Please send me information about the Empire Mechanical Milker". Address Dept. H 34

The Empire Cream Separator Co. of Canada, Limited
MONTREAL, TORONTO, WINNIPEG



SILK All Fancy Colors—Large Pieces—just what you need for making Crazy Quilts, Cushions, etc.; large packet 10c, or 3 for 25c. **SEWING EMBROIDERY SILK**—Large packet of best quality in assorted colors, 10c, or 3 for 25c. We pay postage. Order now and receive our catalogue free. **United Sales Co., Dept. 8, Station B, Winnipeg, Man.**

Fertilizers' Value

PLANT FOOD REMOVED BY CROPS PER ACRE

Crops	Lbs. Nitrogen	Lbs. Phosp's	Lbs. Potash	Lbs. Lime
Wheat, 20 bus. ..	35	20	35	8
Barley, 40 bus..	40	20	38	9
Oats, 50 bus. ...	50	18	45	11
Corn, 65 bus. ...	75	20	60	12
Peas, 30 bus. ..	..	25	60	75
Tim. Hay, 2 tons	60	40	90	24
Clover Hay, 2 t'ns	..	56	132	150
Potatoes, 150 bus.	80	40	150	50

VALUE OF FERTILIZERS

Those who have not kept in touch with the literature of the Central Experimental Farm, will have overlooked their work on the value of fertilizers as completed in 1914. In that year there were completed six years of experiments designed to supply information concerning the relative fertilizing merits in the regular farm rotation.

To carry out the work, four small fields were selected. These were each divided into four equal-sized plots and placed under the following rotation:—

1st year—Hoed crop.

2nd year—Oats seeded down with 8 lbs. red clover, 2 lbs. alsike, and 12 lbs. timothy per acre.

3rd year—Clover hay.

4th year—Timothy hay or pasture, with land ploughed shallow early in fall, top worked and ribbed up late.

The fertilizer treatment given these areas is shown in the following table:—

The six years' results supply the following interesting data:—

Rotation "X," which was fertilized with barnyard manure alone, cost the least to operate and produced the largest returns. The average profit for the period was $7.46 per acre.

Rotation "Z," which received a mixture of barnyard manure and commercial fertilizers, produced equally as well as rotation "X," but cost slightly more to operate, with the result that the net profit was just $6.52 per acre.

Rotation "Y," receiving commercial fertilizer alone, was the lowest in producing power and cost as much to operate as "X." The profits therefrom have averaged only $5.38 per acre.

These results show a distinct advantage of barnyard manure alone over commercial fertilizer alone for this soil, but point to the possibility of combining the two to good advantage.

Feb. 5 to 9.—Annual meeting and directors' meetings, Dominion and Ontario Live Stock Associations, at Toronto.

Feb. 6 and 7.—The Ontario Fairs Association, Foresters' Hall, Toronto.

Feb. 14 to 16.—Farmers' week in Winnipeg at Industrial Bureau and Agricultural College.

Feb. 13 to 16.—Sask. Grain Growers' Convention, Moosejaw.

Feb. 28-Mar. 2.—United Farmers of Ontario and Farmers' Co-operative Co., at Toronto.

Crop.	Rotation N	Rotation X	Rotation Y	Rotation Z
Mangels	No fertilizer	Manure 15 tons	No Manure Superphosphate 300 lb. Muriate of Potash, 75 lb. Nitrate of Soda, 100 lb.	Manure 7½ tons Superphosphate 150 lb. Muriate of Potash, 37½ lb. Nitrate of Soda, 50 lb.
Oats	No fertilizer	No fertilizer	Nitrate of Soda, 100 lb.	Nitrate of Soda, 100 lb.
Clover hay	No fertilizer	No fertilizer	Nitrate of Soda, 100 lb.	Nitrate of Soda, 100 lb.
Timothy hay	Pastured	No fertilizer	Nitrate of Soda, 100 lb.	Nitrate of Soda, 100 lb.

THE PROFITS MADE

In calculating the returns from these rotations, fixed values were used, as follows:—

Muriate of potash	$2.50 per 100 pounds
Nitrate of soda	3.00 per 100 pounds
Superphosphate	0.90 per 100 pounds

Costs, Returns and Profits Per Acre of Rotations "N," "X," "Y" and "Z."

Rotation.	Cost to operate	Value of returns	Net profit 1914	Net profit average of 6 years
N—No manure or fertilizer of any kind	$11.59	$13.41	$1.82	$1.47
X—Barnyard manure	16.01	21.38	5.37	7.46
Y—Complete commercial fertilizer	16.04	23.53	4.49	5.38
Z—Barnyard manure, together with commercial fertilizer	17.21	22.45	5.24	6.52

FEEDING YOUR PLANTS

Plant Food	Fertilizer Used	Amount per Sq. Rod	Notes
Nitrogen	Nitrate of Soda Sulphate of Ammonia	1½ lbs. 2 lbs.	In solution 1 lb. to 12 gals. water
Potash	Kainit Sulphate of Potash Muriate of Potash Wood Ashes	3 lbs. 1½ lbs. 1½ lbs. All you can	Vegetables Fruit
Phosphoric Acid	Ground Phosphate Bone Meal Basic Slag	¾ lb. 1 lb. 4 lbs.	

FRENCH-CANADIAN CATTLE

The French-Canadian breed has gone quietly on its way during the year which has just closed.

There has been a very satisfactory increase in the number of breeders in the Province of Quebec, which in 1908 was 54 and at the present time is 192. Nevertheless, the province as a whole has not made the progress it should have done if breeders had united in endeavoring to bring themselves more to the fore at the important exhibitions held in other provinces of the Dominion and in the New England states. This is due in part to lack of interest on the part of our breeders, but to a great extent to the lack of the necessary funds to cover expenses. As everyone knows, one needs a very long purse to cover the cost of sending prize stock long distances.

But this breed will never be appreciated to its full worth until milk is paid for by the butter and cheese markers according to its butter-fat content. We note with great satisfaction the law in Ontario in this connection, and hope that Quebec will immediately follow the example and adopt a similar law. When patrons, who usually reckon by weight of milk, discover that they are receiving from 50 cents to $1 per 100 lbs. less than farmers who have herds giving rich milk, it is to be hoped that cows giving rich milk which contains an average of 5 per cent. butter-fat will be more sought after than they are at the present time. It is then, we hope, that French-Canadian cattle will take the place they should have had long ago if the present method of payment for milk had not been all to the advantage of breeds famous more for the quantity than the quality of their milk. And we hope that this day for which we have waited so long is not far off for Quebec.—J. A. Couture.

HOLSTEIN RECORD

Among the world's official records held by Canadian Holsteins are:—

Lisbeth—Highest 7-day butter record by a 13-year-old cow, 29.02 lbs.

May Echo—Highest 7-day milk record by a 11-year-old cow, 726 lbs.

May Echo Sylvia—Highest 30-day butter record by a 7-year-old cow, 169.72 lbs.
Highest 7-day milk record by a senior four-year-old, 759.5 lbs.
Highest 1, 7, 30, 60 and 90-day milk records for cow of any age.

Madam Posch Pauline—Highest 6 months' milk record, 17,476.7 lbs.

Zarilda Clothilde 3rd DeKol—Highest 7-day milk by a junior four-year-old, 817.4 lbs.
Highest 30-day milk record by a junior four-year-old, 3,304.8 lbs.

Love while we may, before our hope is shaken,
And faith and joy are crumbling in despair;
Love while we may, before our peace is taken,
Oh, teach us, Time, to suffer and forbear!
And when at last the evening shadow lengthens,
And welcome Death comes like a friend at last,
Then, then, all-conquering Love our weakness strengthens,
And so wipes out the memory of the past.

—*Roslyn Grey.*

The Renaissance of Music

JUST as Mr. Edison put music into millions of homes with his invention of the first phonograph, so now the beautiful world of music is reborn with the coming of

The NEW EDISON

—The Instrument That Re-Creates Music

It astounds. It amazes. You can have no conception of its wonders, until you hear it Re-Create song, instrument and speech in direct comparison with the original.

Demonstrations of this unparalleled achievement in the leading cities, have proved to the satisfaction of the greatest musical critics that the New Edison is unapproached in its range of musical expression.

Do you want to know more about Mr. Edison's marvellous invention, which one of the musical critics describes as "the Phonograph with a soul"? If so, send to us for a copy of the brochure, "Music's Re-Creation," and the booklet "What The Critics Say."

62

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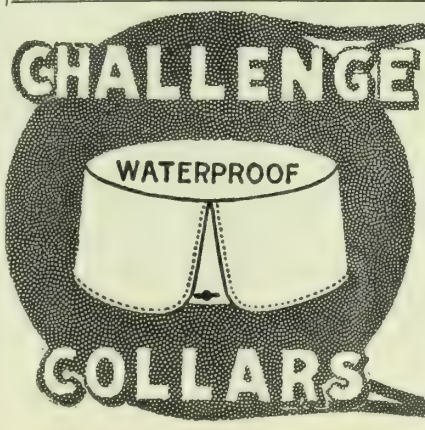

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Making a Musical Home

And What it Means to the Family and the Community

By PHILLIPA SANDON

MUSIC is the most universally enjoyed of all the arts. Everywhere are found those able to play or sing who can't even read. The history of musical instruments and composition, as well as everyday experience, reveals how natural it is for man to try to make music for himself. The farmer who declares he isn't musical is caught whistling over his chores. The mother who can't play a note sings old songs to her babe. Many respond to music's charms when nothing else will restore lost peace of mind, banish care or awaken good emotions in place of wrong; and noble action is inspired by martial music. So much variety is possible, there is music for all. What kind of music people like and in what degree usually varies largely according to the temperament, environment and musical education of the individual.

Music may be an educative and refining force as well as a source of more enjoyment than any other art, to others besides the exponent. Nothing can ever take the place of music in the home where there is none. In the rural home especially, excluded as it is from much that urbanites enjoy, and more dependent on its own resources a musical instrument is a doubly valuable asset. It furnishes enjoyment to those in the home and whoever comes in. Music makes easy the entertaining of friends. It has often, too, proved a safeguard to the home life. Music-loving young people, young men especially, often frequent places where they become associated with evil, because of the music there, that they don't have at home.

Music is not a selfish art; neither should musical education be regarded as a mere accomplishment. Those trained in instrumental or vocal music have the power to give pleasure at home and in friends' homes as well. In the wider sphere of community life they can assist at social affairs, entertainments and services. What kind of programmes would we have for the concert without music, and how would a church service be without any? There is practical value for music outside, but it is still more necessary inside, the rural home, and the training place for future usefulness to the community must be the home.

In regard to some practical phases related to music, one concerns the character of the music studied by the pupil.

Musical art is progressing; so is the music-student. The trend of education in music is towards examinations and different styles of compositions with greater technical difficulty than those ordinarily played by our mothers or aunts. Somebody's Grand March or Quickstep or even a more elaborate number like "The Battle of Waterloo" will satisfy neither the tastes nor well-trained fingers of the modern music-student.

It happens sometimes that others do not care for the music the girl is studying and enjoys. Father and mother want the old-fashioned melodies and rythms of their youth. Her brother calls for the newest ragtime or catchy waltz-song. Without intercepting her musical training the instrumentalist or vocalist either, should not be selfish with her music. She should endeavor to accommodate herself to varying tastes by learning a few numbers to please others.

On the other hand there is need to guard the boy or girl against playing nothing but the light, popular music, often trashy in character, and for which they often neglect their musical studies. The pity is lest, to many with strong, undeveloped tastes for better music, the wealth of treasure in the compositions of the old masters and new, will never be revealed. Sometimes a parent's attitude towards classical music affects the music-student adversely. Many old Scotch. Irish and other songs are very sweet; truly; neither do we question the music of former instrumental favorites. However, some of the most beautiful melodies and harmonies imaginable are clothed in classical forms, full of expressive and powerful music of all kinds. To prejudice and conservatism, instead of not being "educated up to it"—so frequently heard expressed—is due much of the intolerance of "classical" music so-called. Numbers of intolerant when persuaded to listen with patience and unprejudiced ears to classical and semi-classical music find therein much more of delightful and satisfying music than in what they formerly fancied. Learning to listen to good music should be cultivated in parents and children both.

For the music-student it is advisable to secure the best teacher possible. Where it can be avoided don't resurrect the old beginner's books around the house, any more than you would send the child to school with your old text-books. Allow the teacher choice in the matter, as many are hampered in this work from the beginning by this, where it need not have been.

Memorizing of music should be cultivated. "I can't play without any music" is heard too frequently. A good ear for music is not always necessary in memorizing. Determination with patient and careful work can so train the musical memory that people may be largely independent of their music.

Lack of ability in sight-reading also lessens the usefulness of many otherwise capable musicians. Neither is being able to read music well always a gift. Much is accomplished in music "just by patient trying." Yet how many musically-trained cannot play even a simple piece of new music or try a duet without learning it, or sing an easy new song at sight. They tremble and shake when asked to play for a service, fearful that an unfamiliar hymn may be announced. To play a simple accompaniment at sight, is even worse for all concerned. Oh, we know! Haven't we been through it all! The player poor at sight-reading lacks confidence and so do others in her. The voluntary—and often involuntary—organist does noble work, but sometimes at meetings only certain tunes can be sung be-

cause the pianist can't play others desired. To improve in sight-reading, practise new music easier than your range, constantly and systematically. Take a new hymn, or page of new accompaniment or piece, once or twice, daily, if possible, and play it through, always very carefully.

The girl in the rural home with musical advantages, inspired primarily by personal or home enjoyment, should aim, too, at usefulness in her musical art.

For successful service-playing and accompanying more than ability for sight-reading is essential. The play may inspire or mar the music of congregation, choir or soloist. In service-playing the organ leads, with volume enough but not too loud. The organist must keep strictly good time and not follow the congregation or music will drag. An accompaniment, however, should always be subservient to the solo, vocal or instrumental. The accompanist must neither be before nor after the soloist, must play softer than and yet sustain soloist on high or forte passages. The keynote to the difficult art of accompanying is sympathy and close watching of time and expression of the solo.

The deservedly popular piano has so many advantages over the reed-organ and is manufactured and sold now at reasonable prices, it is seen in many rural homes. Some ambitious girls, however, are confined to organs in their homes. Again, some piano-student has difficulty with the unfamiliar organ she plays at church. Despite its limitations as to touch and style of music possible on it, *when in good repair,* the little old organ in home or church may be made to produce sweet music, if carefully handled with wise selections. Some lessons on the pipe-organ or from a competent organist on the reed-organ itself, about the management of stops, swells, pedals, applying the principles of pipe-organ playing to this, for different lines, as service-playing, solo work and accompanying, will prove most helpful to the piano-student organist.

The boy in the home should have his chance at music as well as his sister. Sometimes he has greater talent. The busy young farmer may often get much pleasure from a stringed instrument easy to learn, like the guitar or mandolin. The expressive violin demands more practice. Any young person with a good voice should have it trained to develop and preserve it. No matter what branch of music-study is chosen some knowledge of piano is always an advantage. A very desirable adjunct to the piano where possible is a good Victrola or Edison. For the rural home especially it furnishes a means of broad musical education impossible otherwise to obtain.

It is fine to see a mother keep up her music, or the matron learn music after marriage. Even though it is hard to manage it pays. The home influence of the father or mother is increased if he or she can gather the children around for a good song, and later help entertain their young friends at home by music. Keeping up her music will refresh the mother, encourage her children's musical studies, and increase her usefulnes in the community life. If she can stimulate the love of good music in her own home and community she is serving a worthy cause.

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MUSIC that breaks like sunshine through the long, dreary days of winter. Home takes on a more endearing meaning when music is there to gladden the stay-at-home hours.

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The activities of the Blue Cross and the generous support it receives from the public furnish a striking testimony to the hold which that noble animal the horse has obtained upon the affections of the people.

No one appreciates the value of a good horse better than the farmer. And farmers, as a general rule, are unremitting in their efforts to make the lives of their horses as comfortable as possible.

To this fact is partly due the enormous sale of Dr. Thomas' Eclectric Oil. This famous remedy, which may be applied either externally or internally as desired, is positively invaluable in the treatment of cuts, scratches, burns, bruises, sprains, coughs, sort throat and similar ailments. It is equally effective both for man and beast. Its remarkable healing properties have been tested and proved by years of every day use by thousands of farmers from one end of Canada to the other.

Keep it on hand in the family medicine cabinet and be sure to have a bottle handy in the stable. Its prompt application will prevent many a minor ailment from developing into a serious disorder.

The directions for its use are extremely clear and simple; and while it is not claimed to be a "cure-all" its great usefulness is so well-known and so thoroughly established that it frequently results in saving hundreds of dollars in doctor's and veterinary surgeon's bills.

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God's Green Country

Continued from page 32.

lay awake, trying to smother in her pillow a torrent of hard, racking little sounds that would not be kept back.

CHAPTER VII.

"We are so often ashamed of the Earth—the soil of it, the sweat of it, the good common coarseness. To us in our fine raiment and soft manners it seems indelicate. . . . Bring out your social remedies! They will fail, they will fail every one until each man has his feet somewhere upon the soil."—David Grayson.

HOW pitifully the compass of our lives is played with by the most wanton little winds. When Billy finished college he did not have to grope through the indecision of finding his work; he knew he was a farmer. The conviction was verified, one day when rounding a bend in a drive through a pine-woods country, he felt his pulses bound at the sudden picture of a beautiful stretch of tilled land. It was in the first intoxicating days of spring when the promise of the year is likely to play tricks with our optimism, but the spring never elated him any more. With the breath of the first white thorn blossoms came the memory of another year when their perfume had blown in through the open window of the little Swamp Farm house where his mother waited; and a wonderful quiet possessed him; the old hardness had almost gone. On the day when he had fought his first hard battle with himself, and sobbed out the agony at last, the breaking up had started, and when his father turned to the road after selling the farm and nailing up the empty house Billy felt a genuine pity for him. Jean had been sent back to school and would soon be ready to teach, but he regretted seriously the loss of a home for her. This was another pressing argument for getting a farm of his own.

It was a beautiful stretch of land at the end of a timbered road, a lonely place generally considered, but Billy went over it acre by acre with glowing anticipation. Here he would start a permanent pasture for the long dreamed of Aberdeen Angus herd. Down where the broad creek took such a precipitous leap in its course, he would build a dam and drive the water to the buildings — perhaps install a dynamo later on. The glinting blue stones from the rough little rise back of the barn would make the foundation and fireplace and chimneys for a low Swiss chalet among the trees. He could already see its light blinking down on the highway like a beacon, the welcome to a shelter and resting place where he could dream and hope, blessed with the happy content of having paid his debt to existence through the day.

Billy confided to a classmate, the Jimmy Wood who had piloted him to the brink of his first college social adventure, his plan to buy the place and work it, and Jimmy was disappointed.

"Have you stopped to think what you're letting yourself in for?" he asked. "You've done farm work at home, and I'll warrant you've hated it, but after four years away from it you'll find it a sight worse—the dirt and the drudgery and the eternal monotony. Of course, you'd get used to it. At the end of a year I dare say you'd be content to wear overalls and a six day's beard from Sunday to Sunday. I know we've all said we wanted to farm eventually, but not the grubbing, driving, scraping kind of a job that goes with paying for a place. Better make your money at something else and end up with farming as a hobby, when you can afford to be merely business manager yourself. If you start in now with nothing ahead, and have to save every cent, you'll get so absorbed in yourself, so haunted by the bogey of your mortgage, that by the time you should be some force in the community philanthrophically, you'll be sealed like a clam in the money-getting idea."

"You mean, then, that the only public-spirited agriculturist is the man who makes his money some easier, faster way, and comes back to donate it here and there for rural uplift, who cultivates a hobby of making speeches on the calamity of rural depopulation?"

"Oh, I know my view of it seems sordid enough," Jimmy admitted, "but you're an idealist. And I can tell you there's no way you'll lose you're vision more surely than in a mill with poverty. Besides if I'm not uncommonly dense you've set your heart on that place because you want to build a home on it; you know as well as I do, that a farm's the lonesomest place on earth to go to alone. A man can navigate fairly easily on a single craft anywhere else; he can stop to think whether he can afford a wife and a home or not, and he can wait until he can afford them, but a wife and a home are almost an absolute necessity for a man who owns and works a farm, poor or not. Being an idealist you don't want anything but the best, and I've observed that the best is generally expensive."

Billy still seemed absorbed in the skyline and his adviser feared that he might have gone too far. He knew that if Billy's decision had been made, it had no doubt stood arguments quite as enduring as any he could advance, and it wasn't likely to help things, to remind him of the disadvantages.

"Of course," Jimmy continued. "I haven't any fear that you'd make a mess of things, and I know there are compensations, but suppose you do go back and bury yourself there now, you cut yourself off from everything social at least, and I'm afraid you'll just wall yourself in alone for the rest of your life. On the other hand, you have your choice of two of the best counties in the province for Rep. work. The job has a few allurements apart from the salary, and that reminds me——"

From a collection of letters of various post marks and hand-writing, and sundry photographs, Jimmy produced a snapshot and handed it to Billy. It gave him a wicked satisfaction to see the dull red slowly cover the sober face, for the picture showed nothing more disturbing than Marjorie Evison perched nymph-like on the limb of a blossoming apple-tree. Billy looked for a long time with the same unconscious worship that had followed the airy little figure through the college dance; then he handed the picture back.

"You can have that," jimmy offered magnanimously.

Billy stared in amazement. "Don't you want it," he asked.

"Not specially."

"Where did you get it?"

"Slipped it off the mantel right under her eyes."

Billy looked at the picture again with the same quiet gravity.

"Guess it doesn't belong to either of us," he decided, and carefully held it over the fire until the flames covered it.

Jimmy had not enjoyed such an interesting bit of drama for a long time. He also congratulated himself as a rather successful diplomat.

"I suppose you know you have a chance of the office in her county?" he remarked incidentally. "What are you going to do about it?"

(To be continued.)

THE MODERN DAIRYMAID

By W. L. Larned.

When "Molly called the Holsteins" in the olden yesterday,
We thought it sentimental and we rather liked her way.
Molly walked two miles for Bossy and she milked 'till after dark;
The poet sang of clover and we heard th' Collie bark.
But let me tell you, Mister, after all your songs are through,
The modern dairy business is th' one that profits you.

There ain't so much of "bonnets" and of "lowin' herds at dusk."
There ain't so much that pasture sonnet with its faint perfume of musk.
But when th' year is ended and you balance up th' books,
Your cows have milked you money and are handsomer in looks.
Your neighbor folks are jealous as they see your car appear
And say: "He cleared three thousand on his butter sales this year."

Your milkmaid of th' present is a business woman, Bill;
Her dairy house is cleaner than a snow bank on a hill.
It's crisp, and clean, and shiny from th' rafter to th' floor,
Equipment built for action and capacity for more.
And, through th' open window, where th' big barn rears it's head
You can see a silvry silo where th' ribbon herd is fed.

No more th' muddy pasture and th' wet cows comin' in;
Cement has changed that, Sonny, an' th' cleaner methods win.
No more th' keerless Molly milks in keerless sort of way;
She dons a special costume when she milks her cows to-day.
And when they get too many, why machines can do th' rest,
There ain't no use of talkin', patent system is th' best.
That's why, these happy mornings, when I look around th' place,
And see th' munchin' comfort on each fat old Holstein's face,
I say: "Well, Grandad, surely, if you only lived just now
You'd grunt your full approval of our treatment of a cow."
A spotless town of plenty and a snow white dairymaid,
With all us home folks countin' up th' profit that it paid.

Cork Paving Brick

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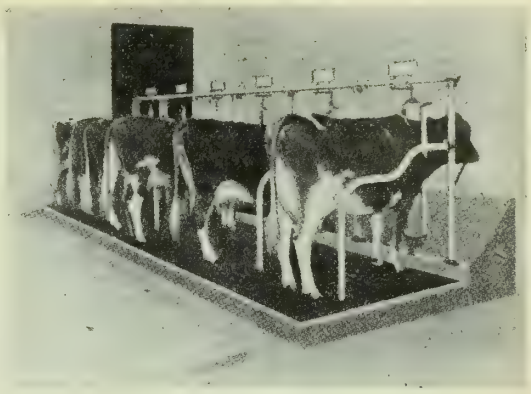

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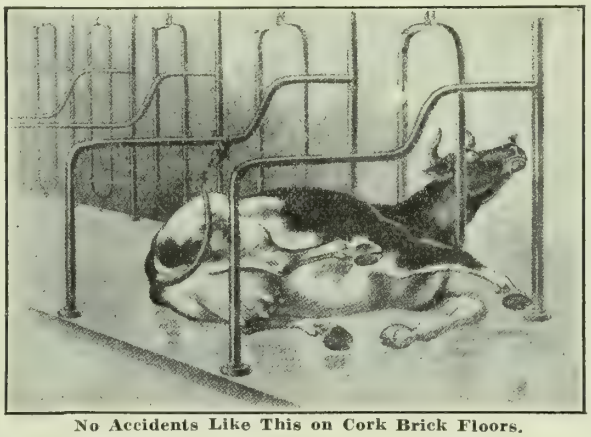

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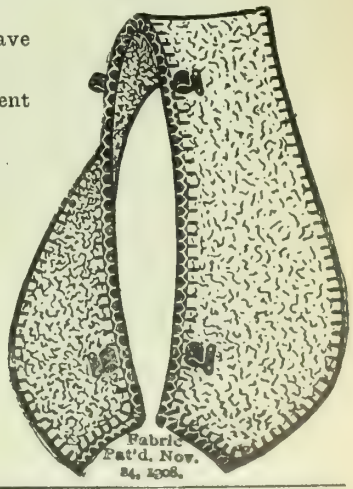

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In The Poultry Yard

POULTRY SCRAPS

By Dan Daly.

THE AVERAGE production of eggs by the hens of U.S. and Canada is about 65.

Prof. Dryden of Oregon, estimates that 30 lbs. of skim milk, 12 lbs. of cutbone or 8 lbs. of beef scrap have the same value.

The American Poultry Association recognizes nearly 60 distinct breeds of fowls in America.

Take the Wyandottes — there are the silver, golden, white, buff, black, partridge, silver-pencilled and Columbian.

The first mention of Plymouth Rock appeared in the Boston *Cultivator* in 1849. The originator produced this breed by crossing a cockerel of Cochin China with a hen, a cross between the fawn-colored Dorking, the great Malay, and the wild India. They were, though, very different from our present birds in color.

The Plymouth Rock, as we now have it, was originated from a mixture of Dominiques, Black Spanish, White Cochin, Buff Cochin, Black Java and a breed now lost, known as the white Birmingham fowl.

The only breed enjoying the distinction of being originated by a woman, are the Buckeyes. Mrs. Nettie Metcalf, of Ohio, crossed Peacomb Rhode Island Reds with the Cornish games.

Ninety per cent. of the big egg farms of America keep only white Leghorns. Miller Purvis says this selection is largely due to their color.

The Dorkings are perhaps the oldest pure-breed of fowls we have. Some trace them to the time of the Roman invasion of Britain.

A characteristic pose of the India Runner Duck—200 eggs a year is frequent.

DUCK DOTTINGS

There are 10 breeds of ducks.

Most ducks are of Asiatic origin.

Ducks have been known as domestic fowl since the beginning of the Christian era.

White ducks are likely the result of Albino matings.

The Pekin comes from China, and is creamy white in color with orange-colored legs and bills.

The Cayuga is an intensely black breed. Its worth has never been truly recognized.

Indian Runner ducks frequently lay 200 eggs in a year. These ducks are almost entirely silent.

Indian Runners are good foragers and range the fields from morning till dark for bugs and worms.

Muscovy ducks originated in South America. They are very strong of wing, frequently perching on trees and houses.

An extensive duck breeder in New York says it costs him about 60 cents to bring a 10-weeks duck into the market. This covers labor, feeds, costs of marketing and incidentals. Such a duck brings $1 in New York, and a 50,000 duck farm, therefore, secures considerable profit.

GUINEA GARRULITY

The Guinea fowl of our barnyards is very similar to the variety common to Western Africa.

White sports have been bred and many farms now carry Guinea fowls that are partly white.

These birds rarely weigh more than 3½ lbs. each.

The cock has a clattering cry which the hens often use, but the hen alone uses the characteristic "buckwheat" cry when comfortable and contented.

The Guinea hen is a wanderer and cannot be kept in confinement with success.

A Guinea hatched under a hen refuses to be weaned and will follow the mother hen till the next spring.

Guineas are very careless mothers and will only bring up a few of the chickens hatched.

They usually begin laying in March and April and will continue till August.

Guinea eggs are small, sharply-pointed with fine dots of brown. They are excellent in flavor and good for home use.

The demand for them is growing. The flesh has a gamey flavor and is often substituted for game birds.

They are about as good as a watch dog around a place, day or night. They raise an alarm when a stranger comes around.

GEESE GABBLINGS

The goose has been known for 4,000 years.

No class of domestic fowl has changed less in color than the goose.

It is entirely vegetarian in its diet.

It is the most cleanly of all our fowls in the selection of its feed.

The Embden goose is white and owes its present good qualities to English breeders.

The Chinese goose is our noisiest variety, and the smallest.

Jack Miner, of Essex, thinks the Canadian wild goose a most intelligent and affectionate bird.

Toulouse geese are much raised for the livers, from which *pate de foi gras* is made.

Goose eggs hatch in about 30 days, sometimes a day or two longer.

TURKEY TALKS

The turkey is the only domestic fowl owing its origin to America.

It was first introduced into Europe in 1524-5.

Turkeys were bred in large numbers by the Aztecs of Mexico and Central America.

In 1541 Archbishop Cranmer so highly esteemed the bird in England that he forebade the eating of turkey hens altogether.

About 1570 the turkey became the recognized Christmas dish of the English farmer.

The first turkey was eaten in France at the wedding feast of Charles VII. and Elizabeth of Austria, June 27, 1576. A large number of the birds had been sent over from Boston to St. Malo and the Governor sent a dozen to the King's cook.

There is no reliable authority as to where the turkey got its name. Certainly it has no relation to the unspeakable Turk.

FEEDING YOUNG DUCKS

From birth to 5 days—Equal part by measure cracked or bread crumbs and cornmeal, hard boiled eggs 15% of crackers and cornmeal and sand 5% of total. Mix with water or milk and feed 4 or 5 times a day.

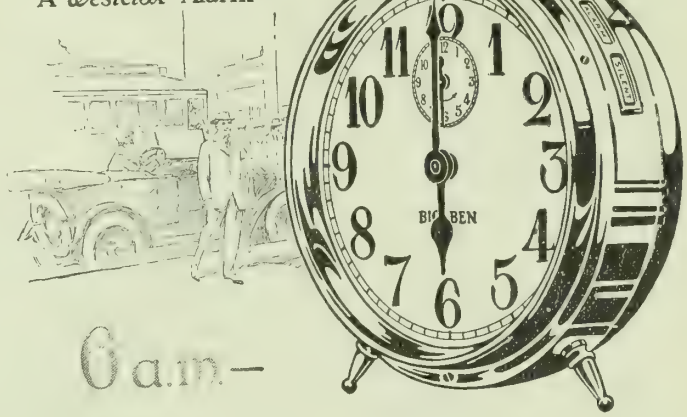
From 5 to 20 days.—Wheat bran, 2 parts; cornmeal, 1 part; rolled oats, 1½ parts; beef scrap 5% and sand 5% of bulk; green feed, 10%. Feed 4 times a day.

From 20 to 40 days—Wheat bran, 2 parts; cornmeal, 1 part; beef scraps and sand, each 5% and green feed 10% of this bulk.

From 40 to 70 days—Same as preceding with proportions of wheat, bran and cornmeal interchanged.

Big Ben

A *Westclox* Alarm



6 a.m.—

There's Success in His Wake

BIG BEN at six a. m. for the big man of business—who knows the luxury of ample time — who's up before duty insists. Try Big Ben in the business of living. Set him a little ahead.

To get your salary up, a year of Big Ben get-ups is better than a *pull* with the Boss. You'll like Big Ben face to face. He's seven inches tall, spunky, neighborly—downright good.

Big Ben is six times factory tested. At your dealer's, $2.50 in the United States, $3.50 in Canada. Sent prepaid on receipt of price if your dealer doesn't stock him.

Westclox folk build more than three million alarms a year—and build them well. All wheels are assembled by a special process—patented, of course. Result—accuracy, less friction, long life.

LaSalle, Ill., U.S.A. Western Clock Co. Makers of *Westclox*

Other Westclox: Baby Ben, Pocket Ben, America, Bingo, Sleep-Meter, Lookout and Ironclad

A FORTUNE IN POULTRY

Increase your production of eggs and poultry for 1917. You can double your egg yield for very little outlay. We are headquarters for 200-egg strains of Bred-to-lay Rocks, Wyandottes, Leghorns and Reds. A Cockerel, setting of eggs or brood of Baby Chicks from our famous high record stock will convince you. Write to-day for beautifully illustrated 1917 Mating and Sales List containing 65 photos of birds and buildings; also feed and tonic formulas. It's free. Our motto: "A square deal for every man!"

L. R. GUILD - Box 6 - ROCKWOOD, ONT.

130-Egg Incubator and Brooder Both For $14.50

FREIGHT AND DUTY PAID

If ordered together we send both machines for only $14.50 and we pay all freight and duty charges to any R. R. station in Canada. We have branch warehouses in Winnipeg, Man. and Toronto, Ont. Orders shipped from nearest warehouse to your R. R. station. Hot water, double walls, dead-air space between, double glass doors, copper tanks and boilers, self-regulating. Nursery under egg tray. Especially adapted to Canadian climate. Incubator and Brooder shipped complete with thermometers, lamps, egg testers—ready to use when you get them. Ten year guarantee—30 days trial. Incubators finished in natural colors showing the high grade California Redwood lumber used—not painted to cover inferior material. If you will compare our machines with others, we feel sure of your order. Don't buy until you do this—you'll save money—it pays to investigate before you buy. Remember our price of $14.50 is for **both** Incubator and Brooder and covers freight and duty charges. Send for FREE catalog today, or send in your order and save time.

Write us today. Don't delay. WISCONSIN INCUBATOR CO., Box 206, Racine, Wis., U. S. A.

Prize Poultry from England

Good poultry pays. Get the best. **HAROLD CORRIE**, whose Blue Orpington Cock won the 1st prize and Challenge Cup, Club Show, Bath, 1915 (here shown), offers the best Blue, Black, Buff or White Orpingtons or Cayuga Ducks, at very reasonable prices.

Write him your requirements.

Special facilities for exportation. Satisfaction guaranteed.

Also breeder of pedigree Jersey Cattle and Berkshire Pigs. Write for particulars.

HAROLD CORRIE, QUOBLEIGH, EASTLEIGH HANTS - ENGLAND

Cables:—Corrie, Fair Oak, England

Sales and Wants

The Farmer's Exchange

5 cents a word—per month

Rates for Classified Ads.—Insertions in this column five cents per word per issue. Each initial, four or less figures in one number count as one word. Name and address is counted as part of the ad. All orders must be accompanied by cash. Forms for the month close on 12th preceding month of issue.

POULTRY

WILSON'S ROSE COMB REDS, WINners of club cup. Birds and eggs for sale. Reasonable prices. F. B. Wilson, Sherbrooke, P.Q. (2.17)

TRY A BRED-TO-LAY STRAIN FOR profits! Eggs from Trapnested Barred Rocks, $2.00 setting. Laying qualities developed by years of breeding. Beauty in barring retained, further particulars: Coldham, Kingston, Ont. (2-17)

RHODE ISLAND REDS — OVER 95 per cent. of eggs from these birds hatched this year. A few hens for sale. F. J. Boland, 1391 Bloor street, Toronto.

BREEDING STOCK ALWAYS ON hand. My birds are performers. Single Comb White Leghorns and Barred Plymouth Rocks. Some special bargains now. Lewis N. Clark, Oldham Farm, Port Hope, Ont.

IDEAL S. C. WHITE LEGHORNS — We are offering superior quality stock bred from Guelph and Toronto winners. Large, attractive birds at prices assuring you a profitable investment. W. F. Disney, Whitby, Ont.

PIGEONS

PIGEONS — PUREBRED EXTRA large Belgian Carneaux (whoppers), snow white Homers (beautiful), big checkered Homers (flyers too), imported stock, guaranteed. Bargains. E. Bartholomew, Curries, Ont. (2-17)

FOXES

SILVER BLACK AND PATCH Foxes. Some Reds from Black litters. Prices on application. T. R. Lyons, Waterville, Kings Co., N.S. (2-17)

JEWELRY

WALTHAM WATCHES — $5.50 TO $150.00. Reliable timepieces. Send for free catalogue to The Watch Shop, Wm. E. Cox, 70 Yonge St., Toronto. (tf)

ALFALFA WANTED

BALED ALFALFA—ONE CARLOAD wanted. State whether first or second cutting, how cured and price f.o.b. your station. Box 40, The Farmer's Magazine, Toronto.

BROODERS

A brooder is an absolute necessity for any one using incubators.

It is safer than the hen for it is always in one place.

It never distributes insect pests unless brought into it from outside.

The brooder is rat and weasel-proof and no predatory animal can disturb the chicks at night.

Chicks raised in a brooder never get chilled for they run to cover at feeling uncomfortable.

A large number of chicks can be cared for by one person with the minimum of labor.

They are simple of construction and easy to operate.

As a rule the 100-chick size should be used for brooding 50 chicks.

Fireless brooders are not recommended for outside use in our Canadian climate.

Cheap fireless brooders are often made out of old soap boxes.

Take a packing box 30 in. square and 20 in. deep with the top sawed off in such a way that a sloping roof can be put on. Hinge the roof on. On the side a door 6 in. square is cut and 2 in. above the bottom on both sides of each corner an auger hole 1 in. in diameter is bored, making 8 of these holes. Burlap is tacked loosely around the inside of the box and the floor bedded with straw. At the tin-shop a galvanized tank was made about 12 in. high and the same in diameter, both ends being closed. This tank is filled with hot water and covered by drawing over it two burlap sacks, which should fit closely. This tank is then set in the middle of the floor and it is ready for the chicks. They can cuddle up to it without danger of crowding and if too warm they sit farther away.

INCUBATOR WRINKLES

So often are the little things forgotten until actual contact with them brings them to mind that running a first hatch has prompted some suggestions that have come up.

Select only the best eggs. Eggs that are uneven or rough shelled very seldom hatch and even if fertile will never mature a complete embryo. Porous eggs distinguishable by visible spots when held before a bright light indicate a poor condition of the hen and will not produce a chick.

The best eggs are those laid by year old hens and sometimes two year olds when they are in the best condition. Pullets' eggs as a rule will not hatch strong chickens until later in the season. Well matured cockerels or better cock birds are the best for early hatching.

Eggs not gathered every hour in cold weather may be chilled and be utterly useless for hatching purposes. They should be kept in a dry cool place. Around 45° to 50° is a good temperature. Eggs should be turned once a day while being saved. Many eggs can be discarded that are useless for hatching by testing before a lamp before placing them in the machine.

To prevent careless turning of the eggs during the hatching period one side may be marked the date of the start of the hatch and the other side the date the hatch comes off. Night and morning the eggs may be turned to bring up the date on the opposite side. In this way every egg is turned without question and all are turned alike.

Eggs of different breeds do not do as well together as eggs of all the same breed, especially if the breeds are of different types, as, for instance, Brahmas and Leghorns. The latter would be ahead in the hatching at the last and the Brahma eggs would not do well. The more uniform the eggs are in every way the better can everything be controlled.

Putting eggs into the machine before it has been run for a day or two at a regulated temperature is risky, and the first importance is to have the machine working like clockwork before any eggs are put into it. The temperature recommended by the manufacturer of the particular make of machine is the best. There is considerable difference in the construction of various makes of incubators.

The operator cannot be too particular about the condition of the lamp all through the hatch. Neglect here will upset the fondest hopes for a good hatch. The best flame and evenest regulation cannot be obtained unless the lamp is working at it's best. If it has smoked flues must be cleaned thoroughly or they cannot be heated as they should, making it hard to heat the machine evenly.

Only those who can leave the machine alone at the last can ever get the strongest chickens. Human agency at this time means the spoiling of the good ones to perhaps get out a few that will die any way or be raised at a dead loss. If the best has been done for the eggs during the incubating period and the lamp is kept in proper condition during the time of hatching all that are worth hatching will get on if left alone. The start is half the battle and if the little chicks are stunted on the start the greatest possible care cannot make them what they might have been had they had the extra vigor of the chick that fights its own way into the world.—A. P. Marshall.

THE EARLY HATCH

Many farmers experience a good deal of difficulty in raising chickens in January or February. A little attention to a few details will clear the way.

First of all biddy should be given a quiet place for her brooding. Before being settled to her business she should be given a good dusting with louse-killer. This process should be repeated at intervals of one week. During her whole incubatory period she should be supplied with plenty of grit and water and grain. After her first two or three days of brooding she should be removed daily from her nest for food and drink and exercise. Once her brood sees the light of day a well lighted stall in the cow stable makes an ideal nursery for her and her flock. A very little care in the use of chicken netting will serve to keep all parties within bounds. Abundance of water and fine grit should be supplied, but no food should be given the chicks for two days after hatching. The litter should be short straw or chaff, thus providing the little fellows with plenty of scratching exercise, without causing any tripping or entangling of feet. It is all the better to crush the grain or corn, though it is well to avoid crushing the grain so fine that it is floury. The floury portion may be profitably sifted out. Biddy, at least once every week, should be thoroughly dusted with good insect pow-

der. In this way her own condition is improved and the chicks are sure of getting the cleansing powder among their feathers and about their heads. It must be remembered that while it is the early chick that catches the big price, that it is only the watchful poultry man who rears the chick under winter conditions.—T. B. A.

DRAWBACKS

There are plenty of drawbacks to the poultry business. But it is well to remember that if poultry raising were an easy matter every cheap John would succeed in it, and there would be no rewards for the man with the right sort of stuff in him. Let no one think that the poultry business is likely to be overdone. There are far too many difficulties in the way for that. It's a long time since biddy cackled in Noah's ark, but as yet there is no sign of any over-production on the part of her progeny. Think of it, an agricultural country like Canada does not produce enough eggs to feed her population! And that in face of the fact that dollar for dollar of investment, biddy takes rank beside the dairy cow and the bacon hog! There is no reason in the world why every farm in the Dominion should not support at least a hundred hens, each hen returning an annual profit of from a dollar and a half to two dollars, quite independently of the destruction of numberless bugs and grubs and other pestiferous insects. It's a fight all along the line in the poultry business, but the raiser who doesn't know when to quit and who brings his best judgment to bear upon his work from day to day enjoys the battle and gathers in a paying share of profits.—Arthur Jones.

GETTING THE HENS TO LAY

Most poultry men will agree that a hen will not lay till she wants to. The big secret of filling the egg basket is getting the hen into an egg-laying mood. In other words, the hen must be filled with energy and in a state of high vitality or she will not lay. She must be contented and healthy or she will scorn all earnest wishing on her owner's part for hen fruit. This season when grain is scarce and dear, and frequently inferior in quality, the farmer will find himself obliged to make use of every resource or he will come short in his egg yield. For one thing he will need to watch the chutes where the hay is moved in order that he may secure all available clover and other leaves for throwing among the scratching litter. As roots are scarce it will be well to sprout as much of the grain as the hens will eat at three or four feeds at least during the week. Water will need to be supplied in abundance. Hens were not intended for icebreakers, and profit will come from keeping the water free from ice. The dropping boards should be cleaned frequently and the premises kept free from dampness.

The farmer who keeps hens may as well prepare to maintain them on a paying basis or be prepared to encounter loss both of temper and feed. The hens are not aware that the grain market is unusually brisk, but demand all they require in the way of grain rations or they will not lay, nor yet will they take on flesh. A dozen hens well housed and carefully watched and well fed will yield more profit than three times that number kept on a bare maintenance basis.—J. A.

Made In Canada
Arrow form fit (PAT) Collars
Have bands and tops curve cut to fit the anatomy of the shoulders.
15c each 6 for 90c
CLUETT PEABODY & CO., Inc

THE BEST
YELLOW GLOBE MANGOLD
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(See Report of NEW ZEALAND GOVERNMENT EXPERIMENTAL FARM)
67 tons per acre
24 tons per acre MORE than the present most popular Yellow Globe variety
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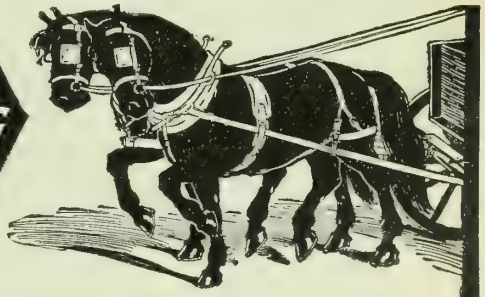
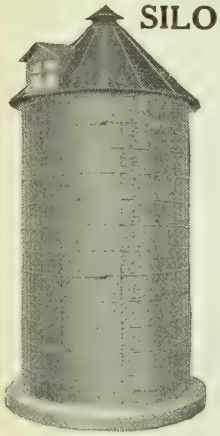
KEEP YOUR HORSES IN PRIME WORKING CONDITION

SOUND legs pull big loads. No horse with a Spavin, Splint, Curb, Ringbone, Bony Growth or Sprain, can do itself justice. Thousands of horsemen have been keeping their horses sound by using Kendall's Spavin Cure—the old reliable, safe remedy. Mr. Maurice Wayville, Amherstburg, Ont., wrote on April 20th last—"I cured a jack spavin with two bottles of your Spavin Cure. I am just taking off a bog spavin. It is the best liniment for sprains you can get for man or beast. I would like to have a copy of your "Treatise on the Horse".
KENDALL'S SPAVIN CURE
acts quickly, leaves no scars or blemishes, and costs little—$1. a bottle—6 for $5. Get our valuable book—"Treatise on the horse"—free at your druggist's, or write us 111
Dr. B. J. KENDALL CO., ENOSBURG FALLS, VERMONT, U.S.A.

THE PREMIER
SILO FOR 1917



The same perfection in material and construction which has earned for it the title of "Best of All" stave silos, with improvements of the greatest interest TO ALL PROSPECTIVE PURCHASERS OF A SILO.

Write for information today to

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Premier Cream Separator Co.
TORONTO, ONTARIO

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Chilean Nitrate Deposits
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Total Nitrate deposits in Chile	720 million tons
Estimated life of deposits at present rate of World's consumption	300 years

For Reliable Information Write

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Chilean Nitrate Propaganda
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FILMS DEVELOPED 5c any size; 8 x 10 enlargements 25c. Postcards 50c dozen.
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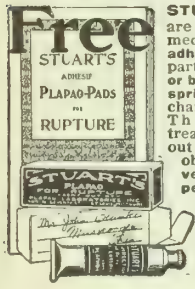
Stop Using a Truss



STUART'S PLAPAO-PADS are different from the truss, being medicine applicators made self-adhesive purposely to hold the parts securely in place. No straps or buckles attached—no obnoxious springs. Cannot slip, so cannot chafe or press against the bone. Thousands have successfully treated themselves at home without hindrance from work—most obstinate cases cured. Soft as velvet—easy to apply—inexpensive. Awarded Gold Medal. Process of recovery is natural, so afterwards no further use for trusses. We prove it by sending you Trial of Plapao absolutely free. Write today.
PLAPAO CO., Block 627 St. Louis, Mo.

The Business of Dairying

There is virtue in the cow; she is full of goodness; the whole landscape looks out of her soft eyes. I had rather have the care of cattle than be the keeper of the great seal of the nation.—John Burrough's.

WATER FOR COWS.

I FIND that it pays to provide my cows with an abundance of fresh drinking water. Their feed consists of silage, clover hay, and barley-oats-cottonseed meal concentrated. But I found I was not getting the best results and decided to instal a water system at the barn so that the cows could be turned into the covered shed and secure all the fresh water they wanted twice a day. I noticed an increase in milk at once. The water aids the cow in the proper assimilation of her feed and she consumes more roughage.

Every dairy farmer, I think, should either instal a bowl system of running water in his stables or have such a shed as I have where the water is not ice cold. —A.G.L.

COST TO RAISE A HEIFER

Prof. Trueman, of Star's Conn., says that it costs $71 to put a dairy heifer to work in the herd. He figures his costs as follows:—

First year's feed	$28 00
Second year's feed	27 00
Two years' labor	10 00
Bedding $1 per year	2 00
Barn, rent, insurance, interest and taxes	4 00
Total	$71 00

THE AYRSHIRE COW

The Ayrshire Breeders of Canada have consistently advertised the good qualities of their breed. In a booklet illustrating some good producers, they give some of the reasons for breeding this cow, that must weigh with farmers.

She has often been called the dairy rustler.

The Ayrshire is a very easy keeper, having a good appetite, and not too particular about the kind or quality of her food, eating with a relish whatever is offered.

Average yield of milk and butter fat of all cows and heifers that have qualified in the Record of Performance test to May 1st, 1916:

		Lbs. Milk	Lbs. Fat	% Fat
224 Mature cows	Average	10,254	413.90	4.03
74 Three-year-olds	"	9,358	380.77	4.07
154 Three-year-olds	"	8,447	346.71	4.10
318 Two-year-olds	"	7,532	311.19	4.11
770 Cows and heifers	"	8,692	354.80	4.08

The Ayrshire is an all-round dairy cow. She produces the finest of butter and cream, but her strongest point is the production of milk for cheese-making and for the milkman for family use.

The average test of the 770 Ayrshire cows and heifers that have qualified in the Canadian Record of Performance test is 4.08 per cent. fat.

A quantity of milk containing one pound of fat will make about 2.6 pounds of cheese. Therefore 100 pounds of milk, testing 3 per cent. fat will make, 3 x 2.6—7.8 lbs. cheese, which at 15 cents per lb. will give $1.17 per cwt. for this milk. But if this quantity of milk tested 4 per cent. fat, it would make 4 x 2.6 —10.4 lbs. of cheese, which at 15 cents per lb. would give the farmer $1.72 per cwt. for the same amount of milk.

Another quality of inestimable value is its admirable adaptability to infant feeding and for invalids. Children fed on Ayrshire milk are not subject to stomach troubles and make a rapid and healthy growth.

While the Ayrshire is strictly a dairy animal, they might be called a dual-purpose breed, for they fatten quickly and make a quality of beef greatly liked by butchers.

The first Ayrshire cow on record to give 20,000 lbs. of milk in one year was Jean Armour, bred by H. & J. McKee, Norwich, Ont., and put through the Advanced Registry in the United States by her owner, Mrs. Erhardt, of Vermont. This cow was from an old Canadian herd and traced back through thirteen generations to one of the early importations from Scotland. Then came Gerranton Dora 2nd, a Scotch bred cow, followed by Lily of Willowmoor, an American bred cow, three removes on the side of dam from importation, and ten removes on side of sire, running back to early importations from Scotland to the United States.

FARMER GETS $14 PER COW

A. A. Farewell, of Oshawa, in discussing the question of the H. C. of L. submitted the following table as the cost and returns per milk cow per year.

YEARLY COST OF COW.

Cost of feed for one year	$80 00
Cost of labor	25 00
Interest on value of cow	5 00
Cost of keeping bull	2 50
Interest on value of barn and equipment	4 00

Cost of bedding	2 90
Taxes and insurance	1 12
Depreciation in value of herd	4 20
Veterinary services	46
Depreciation in value of barn	4 25
General improvement, painting, etc	1 75
Cooling and separating milk	6 20
Hauling milk to station	6 00
Total	$143 38
Deduct ten tons of manure at $2 per	20 00
	$123 38

COW'S YEARLY RETURN.

550 gallons of milk at 25c	$137 50
Profit to farmer for 16 hrs. daily work	14 00

"Now, let me show you," says he, "the relative cost of milk to other kinds of food. One quart of milk equals: Beef, 12 ounces, 9 eggs, 2 pounds of canned salmon, 2¼ pounds of potatoes, one-third pound of cheese, 9 ounces of bread, and 7 ounces of beans."

THE JERSEY EFFICIENCY

The American Jersey Cattle Club reports an increase of 119 pounds of milk, 9 pounds of butter and .02 per cent. of fat for the last year as compared with the year previous, taking into account 5,244 tests. The average of all these tests is 5.35 per cent. fat.

The table below speaks well for this breed of cattle, and surely places them in the efficiency class. It is up to February 29th, 1916—

	Milk lbs.	Fat lbs.	85% Butter lbs.
1861 two-year-olds	6,572	355	418
911 three-year-olds	7,377	400	471
668 four-year-olds	8,340	449	528
1,904 cows five years old or over	9,057	478	562
5,244 cows and heifers, all ages	7,792	417	490
Ten two-year-olds	12,538	677	796
Ten three-year-olds	13,838	731	860
Ten four-year-olds	13,626	779	916
Ten cows five years old	16,803	928	1,092
Best 2-year-old records	14,513	816	960
Best 3-year-old records	17,793	910	1,071
Best 4-year-old records	16,147	937	1,103
Best records at any age	19,695	999	1,175

CANADA'S HOLSTEINS VALUED AT $8,000,000

By W. A. Clemons.

Despite war time conditions and the comparative failure in Ontario of the corn, root and coarse grain crops, the business of the Holstein-Friesian breeders, as indicated by the transactions of the secretary's office, has made substantial progress during the year 1916.

The number of registrations for the year reached 11,053 as compared with 10,260 in 1915. It will be found, I believe, that our registrations will greatly exceed in number those of all the other dairy breeds combined. That the trade in Holsteins has been extraordinarily active is shown by the fact that 9,544 certificates of transfer were issued in the twelve months. The total number of Holsteins registered in our Herd Book to December 31st, 1916, was 75,650. For the years 1911 to 1916 inclusive our registrations numbered 49,-675. Our membership is now about 2,400, cash and securities on hand over $15,000, total assets over $20,000.

It is difficult to estimate the number of

HINMAN
THE UNIVERSAL MILKER

The HINMAN MILKER

is not an Experiment, Fad or Theory, but a tried and proven machine. "Successful for over Eight Years." You cannot afford to accept a milker that has done less. Get approximate cost of **HINMAN** outfit and surprise yourself at its low installation cost.

Write for FREE Booklet "A."

H. F. Bailey & Son, Galt, Ontario

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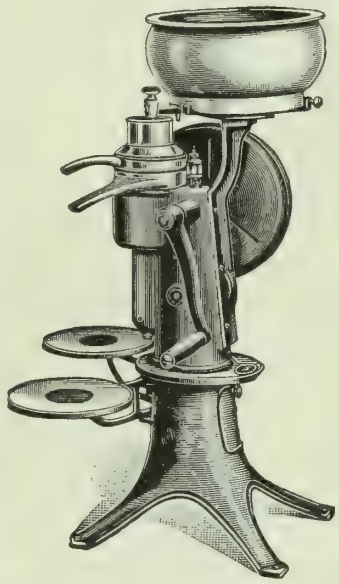


MORE CREAM —Bigger Profits

By using the "King" Cream Separator you obtain all the Cream with less labor. Let us place a Separator in your dairy to convince you the above statement is true. Strongly built for lasting service. All sizes. Can be operated by hand or power.

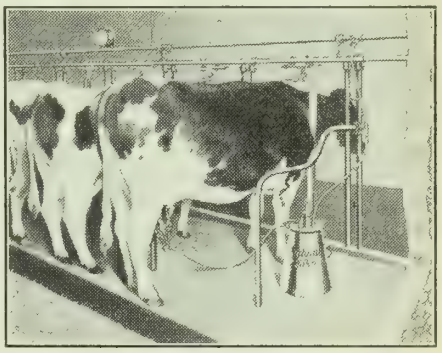
Write us for our agent's address in your locality. Sold on easy terms

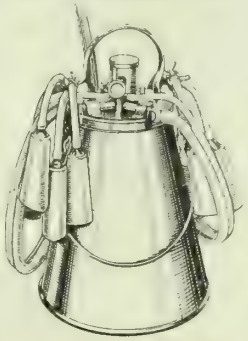
King Separator Works of Canada

KING CREAM SEPARATOR BRIDGEBURG - ONTARIO

DAIRYMEN SHOULD USE THE "NATURAL" MILKING MACHINE

Mechanical Milkers are a necessity under present farming conditions. It is needless to spend time arguing that a farmer needs a Mechanical-Milker outfit because every farmer knows that a machine which will enable a man or boy to milk twenty-five to thirty cows in an hour, practically without labor, and get more milk with greater comfort to the cows, is a machine he must have. And yet the farmer or dairyman needs good advice in the selection of his Milker. The principle by which the milk is drawn from the udder differs in the different machines and the farmer must decide which is the SAFEST, MOST EFFICIENT and most RELIABLE principle to adopt in milking his cows. It is only right that the farmer should understand this before he commits himself to any purchase. As to the fear that Mechanical Milkers might injure a valuable cow, let us say that injury is impossible, under any conceivable circumstances, with:





THE NATURAL MILKER

We say this knowingly and with full knowledge of the prejudices and experiences of dairymen throughout the years which have led up to the final perfection of the Milking Machine as embodied in the Natural Milker. The special features of the Natural Milker are:

(1) It milks by PRESSURE ONLY. (2). Cows teat protected from direct vacuum. (3). The "Downward Squeeze," which is recognized as the right principle. (4). The only Milker in the world having the patented feature, "THE DOUBLE DOWN SQUEEZE." (5). The only milker having a quick vacuum release after each compression, which saves a quarter to a third of actual milking time over any other milker.

WILL YOU READ OUR BOOKLET? SENT FREE.

We want you to know all about the Natural Milker. We will gladly give you full particulars and mail you a copy of our Booklet if you will send us your name and address.

FARM and DAIRY MACHINERY CO., Limited
726 Lumsden Building - - Toronto

A SPLENDID BRICK FOR HOME BUILDING

Many of the bright, cheery homes you see in Ontario are built with Port Credit Cherry Red Pressed Brick because it is a splendid brick for home building. Its full size and extra good value make it a really economical brick—see this brick before you commence to build.

Let us send you a sample with price—prepaid. Drop us a card to-day.

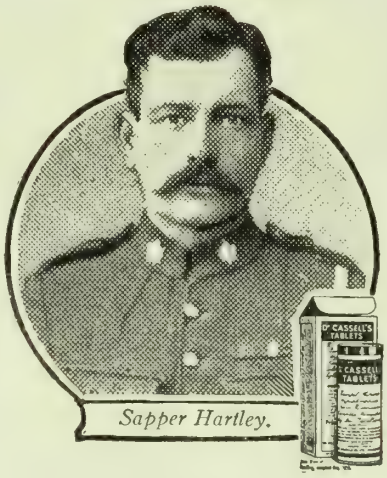
Port Credit Brick Co., Limited, McKINNON BLDG., TORONTO

Works: Port Credit, Ontario

Kept Fit Through Two Wars

Ontario Sapper Praises Dr. Cassell's Tablets.

That a soldier should use and praise Dr. Cassell's Tablets is clear proof of the wonderful sustaining power of this great strength-giving medicine. And thousands of service men on land and sea are trusting to Dr. Cassell's Tablets to sustain them through all the hardships of relentless war.



Sapper Hartley.

SAPPER A. HARTLEY, OF THE A. COMPANY, CANADIAN ENGINEERS, whose home address is **906, TRAFALGAR-STREET, LONDON, ONTARIO,** is one of many who have written in praise of Dr. Cassell's Tablets. He says:—"As a constant user of Dr. Cassell's Tablets I would like to add my testimony to their value. I used them when I was in the South African War, and, finding the benefit of them there, have taken them since whenever I felt run-down. I always recommend them, for I know they do all that is claimed for them. In my opinion they are the best tonic anyone can take for loss of appetite, poorness of the blood, or general weakness of the system. We have had a lot of hard training here, and some time ago I began to feel the strain, but I got some Dr. Cassell's Tablets, and the boys are surprised at what a difference they made in me. I mean to have some with me always on active service."

Dr. Cassell's Tablets put new life and vigour into weak, overstrained people. They nourish the nerves, enrich the blood, strengthen the general system, and create the snap and fitness which make life a joy. Take a course of them, and health and vital energy will soon be yours

Dr. Cassell's Tablets

FREE SAMPLE.
On receipt of 5 cents to cover mailing and packing, a generous free sample will be sent at once. Address: Harold F. Ritchie & Co., Ltd., 10, McCaul-street, Toronto.

Dr. Cassell's Tablets are Nutritive, Restorative, Alterative, and Anti-Spasmodic, and the recognised remedy for

Nervous Breakdown	**Sleeplessness**	**Mal-nutrition**
Nerve Paralysis	**Anæmia**	**Wasting Diseases**
Infantile Weakness	**Kidney Trouble**	**Palpitation**
Neurasthenia	**Dyspepsia**	**Vital Exhaustion**

Specially valuable for nursing mothers and during the Critical Periods of life.

Sold by Druggists and Storekeepers throughout Canada. Prices: One tube, 50 cents; six tubes for the price of five. War tax, 2 cents per tube extra.

Sole Proprietors: Dr. Cassell's Co., Ltd., Manchester, Eng.

registered Holsteins now living in Canada, but I am inclined to think that 50,000 would be a fair estimate. At the low valuation of $160 per head, which is less than the usual average at dispersion auction sales, this would mean that we have at present $8,000,000 worth of Holsteins in Canada. While we have no exact figures of the distribution of these cattle by provinces, I would estimate the number in Ontario at 35,000; in Quebec at 6,000; in British Columbia at 3,000; in Alberta at 2,000; in Manitoba at 1,500; in New Brunswick at 1,000; in Nova Scotia at 750; in Saskatchewan at 500 and in Prince Edward Island at 250.

Under our system of official testing, which no other breed association in Canada possesses, 3,557 cows and heifers have made records enabling them to enter the Record of Merit. All these records were made under the strict supervision of a representative of an agricultural college or experiment station, and when extraordinary records were in progress verification tests have been made by other supervisors. To qualify in the Record of Merit, a junior two-year old must produce in seven days 8 lbs. fat; a senior two-year old, 9 lbs.; a junior three-year old, 10 lbs.; a senior three-year old, 11 lbs.; a junior four-year old, 12 lbs.; a senior four-year old, 13 lbs. and a mature cow, 14 lbs. Many of these tests are continued for 30, 60 and 90 days and a few have embraced the entire year.

Under the semi-official yearly test or record of performance 1,078 cows and heifers have qualified for certificates. Our standard of production is:—

	Lbs. Milk	Lbs. Fat
Two-year-olds	7,500	255
Three-year-olds	8,500	289
Four-year-olds	9,500	323
Mature cows	10,500	357

R. OF P. RECORDS.

We have not struck an average of the R. of P. records recently, but the first 629 cows to qualify averaged as follows:

Class.	No. of records	Average lbs. milk	Average lbs. butter 80% fat
Mature	209	14,007.59	575.00
4-year-olds	95	14,388.08	549.57
3-year-olds	106	12,314.62	512.45
2-year-olds	219	10,562.20	440.12

This is a fair sample of what the better class of Holsteins will do under favorable conditions. The average herd should produce around 10,000 lbs. milk and 425 lbs. butter per cow. First-class large herds are doing much better. The Colony Farm herd in British Columbia and the Glenlea herd in Manitoba are averaging around 13,000 lbs. and 14,000 lbs. milk per cow annually.

Among the most remarkable official records made within the last year are those of May Echo Sylvia, milk record for 1 day, 152.1 lbs., for 7 days, 1,005.8 lbs., for 30 days, 4,196.9 lbs., for 60 days, 8,220.1 lbs., for 90 days, 11,855.1 lbs., and for 100 days, 12,899.8 lbs.; butter record for 7 days, 41.00 lbs., for 30 days, 169.72 lbs., for 60 days, 323.32 lbs., for 90 days, 463.67 lbs., and for 100 days, 505.34 lbs.; Lakeview Rattler, record for 7 days' milk, 724 lbs., and butter, 37.54 lbs.; Belle Model Johanna 2nd, record for 7 days, 567.9 lbs. of milk, and 37.34 lbs. butter; Midnight Comet DeKol, at 4 years, milk, 579.9 lbs., and butter, 34.98 lbs.; Lady Waldorf Pietje, at 4 years, milk, 736.7 lbs., and butter, 36.30 lbs.; and Lakeview

Dutchland Artis, at 3 years, milk, 567.7 lbs., and butter, 34.66 lbs.

Among the good yearly records are those of Toitilla of Riverside, 24,094 lbs. milk, and 1,057.5 lbs. butter; Mercena Calamity Posch, 26,448 lbs. milk, and 1,041.25 lbs. butter; Hill-Crest Pontiac Vale, at 4 years, 22,785 lbs. milk, and 986.-25 lbs. butter; Plus Pontiac Artis, at 3 years, 21,018 lbs. milk, and 990 lbs. butter; and Baroness Madoline, at 4 years, 21,149 lbs. milk., and 966.25 lbs. butter.

BIG PRICES RECEIVED.

While the average price of Holsteins has been well maintained the value of the best animals, or those showing remarkable record backing, has wonderfully increased. At Detroit last June 40 head of specially selected animals made an average of $1,100 per head, one bull calf fetching $20,000. At Portland, Oregon, in December a bull ten months old sold for $21,500 to Von Herberg, of Seattle, who has been a liberal buyer of Canadian cattle, paying, I understand, $5,000 for the two Colony Farm cows Netherland Segis 2nd and Pauline Colantha Tensen. The bull, King Segis Pontiac Konigen, formerly owned by J. Alex. Wallace, of Norfolk County, was sold a few months ago for $35,000 to a noted Massachusetts breeder, which is claimed to be the highest price ever paid for a dairy bull.

May Echo Sylvia, mentioned above, is the world's champion milk producer for 1 day, 7 days, 30 days, 60 days and 90 days, under official test. Her son, Avondale Pontiac Echo, sold by Mr. Hardy for $5,000 before the above records were made, is now held at $25,000. Although owned in Quebec, he is at present under lease by Messrs. Burnaby, of York County, and Wallace, of Norfolk County, and is standing at a service fee of $100.

Another high-priced young bull is King Korndyke Sadie Keyes, son of Lulu Keyes, 36.05 lbs. in 7 days. Gordon Gooderham writes me that he has purchased a half-interest in this youngster from his breeder, Mr. D. B. Tracy for $5,000.

I do not anticipate that the Holstein breed will suffer from the new Ontario Standards Act. The fact that in both the United States and Canada, the registrations of Holsteins outnumber those of all the other dairy breeds combined is pretty good evidence that the black-and-white cow can hold her own anywhere in North America under any old system of payment for milk. The much-talked-of injustice of the pooling system has been more apparent than real, for in most of the cheese factory districts Holsteins have a practical monoply and there is no great variation in the quality supplied by different patrons. If any farmer has been foolish enough to breed for quantity without regard to quality, he can scarcely expect much sympathy. If a man has a fairly good herd of grades that average a little low in test, the proper thing for him to do is to use a bull from a high testing family of the same breed and to cull out some of his lowest testers.

To use a bull of some other breed in order to increase the percentage of fat would be the height of folly. Any gain that he might secure along that line would be more than off-set by loss in quantity of milk, in total quantity of fat, and in uniformity of type, color and production. In a few years he would have a herd of nondescripts of which he would probably be ashamed.

What Is Auto-Intoxication--- And How to Prevent It

By C. G. Percival, M.D.

Perhaps the best definition I have ever noted of Auto-Intoxication is "Self-Intoxication, or poisoning by compounds produced internally by oneself."

This definition is clearly intelligible because it puts Auto-Intoxication exactly where it belongs; takes it away from the obscure and easily misunderstood, and brings it into the light as an enervating, virulent, poisonous ailment.

It is probably the most insidious of all complaints, because its first indications are that we feel a little below par, sluggish, dispirited, etc., and we are apt to delude ourselves that it may be the weather, a little overwork or the need for a rest.

But once let it get a good hold through non-attention to the real cause and a nervous condition is apt to develop, which it will take months to correct. Not alone that, but Auto-Intoxication so weakens the foundation of the entire system to resist disease that if any is prevalent at the time or if any organ of the body is below par a more or less serious derangement is sure to follow—

The ailments which have been commonly, almost habitually, traced to Auto-Intoxication are: Langour, Headache, Insomnia, Biliousness, Melancholia, Nervous Prostration, Digestive Troubles, Eruptions of the Skin, Rheumatism, Neuralgia, Kidney Disturbance, Liver Troubles.

There are several conditions which may produce Auto-Intoxication, but by far the most common and prevalent one is the acumulation of waste in the colon, caused by insufficient exercise, improper food or more food than nature can take care of under our present mode of living.

I wonder if you realize how prevalent this most common cause of Auto-Intoxication really is—the clearest proof of it is that one would be entirely safe in stating that there are more drugs consumed in an effort to correct this complaint than for all other human ills combined—it is indeed universal, and if it were once conquered, in the words of the famous medical scientist, Professor Eli Metchnikoff, "the length of our lives would be nearly doubled."

He has specifically stated that if our colons were removed in early infancy we would in all probability live to the age of 150 years.

That is because the waste which accumulates in the colon is extremely poisonous, and the blood, as it flows through the walls of the colon, absorbs these poisons until it is permeated with them. Have you ever, when bilious, experienced a tingling sensation apparent even above the dormant sensation which biliousness creates? I have, and that is Auto-Intoxication way above the danger point.

Now, if laxative drugs were thorough in removing this waste, there could be no arraignment against them—

But they are at best only partially effective and temporary in their results, and if persisted in soon cease to be effective at all. Their effect is, at best, the forcing of the system to throw off a noxious element, and they, therefore, "jolt" nature instead of assisting her.

There is, however, a method of eliminating this waste, which has been perfected recently after many years of practice and study, which might be aptly termed a nature remedy. This is the cleansing of the colon its entire length, at reasonable periods, by means of an internal bath, in which simple warm water and a harmless antiseptic are used.

This system already has over half a million enthusiastic users and advocates, who have found it the one effective and harmless preventive of Auto-Intoxication, and a resulting means of consistently keeping them clear in brain, bright in spirits, enthusiastic in their work and most capable in its performance.

The one great merit about this method, aside from the fact that is so effectual, is that no one can quarrel with it, because it is so simple and natural. It is, as it is called, nothing but a bath, scientifically applied. All physicians have for years commonly recommended old-fashioned Internal Baths, and the only distinction between them is that the newer method is infinitely more thorough, wherefore it would seem that one could hardly fail to recommend it without stulifying himself, could he?

As a matter of fact, I know that many of the most enlightened and successful specialists are constantly prescribing it to their patients.

The physician who has been responsible for this perfected method of Internal Bathing was himself an invalid twenty-five years ago. Medicine had failed and he tried the old-fashioned Internal Bath. It benefited him, but was only partially effective. Encouraged by this progress, however, he improved the manner of administering it, and as this improved so did his health.

Hence, for twenty-five years he has made this his life's study and practice until to-day this long experience is represented in the "J. B. L. Cascade." During all these years of specializing, as may be readily appreciated, most interesting and valuable knowledge was gleaned, and this practical knowledge is all summed up in a most interesting way, and will be sent to you on request, without cost or other obligations, if you will simply address Chas. A. Tyrrell, M.D., Room 356, 163 College Street, Toronto, and mention having read this article in FARMER'S MAGAZINE.

The inclination of this age is to keep as far away from medicine as possible, and still keep healthy and capable. Physicians agree that 95 per cent. of human ailments is caused by Auto-Intoxication.

These two facts should be sufficient to incline everyone to at least write for this little book and read what it has to say on the subject.

SOIL PROFIT BOOKS

tell how you can increase your farm profits and build up your farm through more profitable farming methods, including the use of fertilizers. Crops, soils, seeds, lime, cultural methods, harvesting, marketing, drainage, cover crops, farm manures, rotations, etc., are among subjects discussed.

You Cannot Afford to Ignore Fertility Subjects

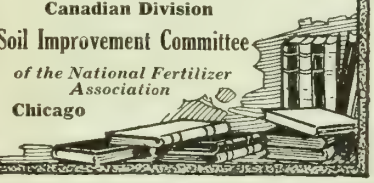
Present high prices for farm products make larger yields doubly profitable. Our soil books are free. You should have a set to study before planting season opens. Inform yourself by writing for them.

Canadian Division

Soil Improvement Committee

of the National Fertilizer Association

Chicago



No Crop Produces Profits Like a Maple Grove

Take any crop that you grow and figure out how much profit you have left after paying for ploughing, seed, fertilizing, cultivating, harvesting, labor, keep of horses, wear and tear on machinery, etc. Add to your cost a month of hot, dry weather and you are lucky to come out even.

Now go to your nearest neighbor who has a sugar bush with up-to-date equipment, and ask him to tell you honestly how much syrup and sugar 100 average size maple trees will produce, how much he sells it for, and what it costs to make it.

You will find that, acre for acre, a sugar bush will produce a bigger profit than any other crop that you grow and with less cost for equipment, with less labor, and in less time besides the sugar season comes at a time of the year when no other work can be done.

Maple products are now higher in price than at any time in the history of the industry—let us show you how to produce the highest quality syrup and sugar and obtain the highest prices.

Ask us to-day to send you the fullest information about sugar making without cost to you.

Grimm Mfg. Co., Limited

64 Wellington Street, - Montreal

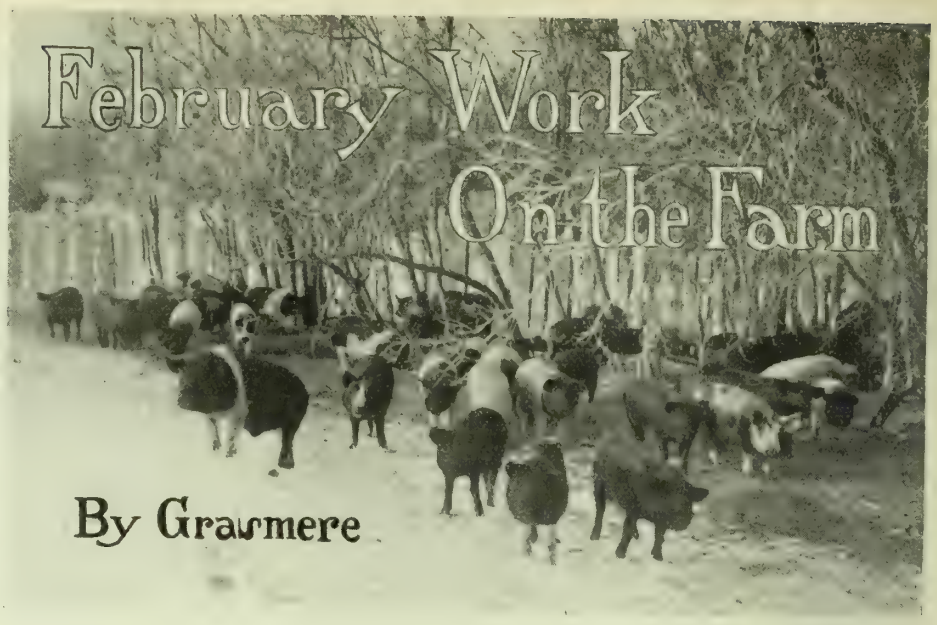
MEN WANTED

All classes of labor, skilled and unskilled. Steady work, good wages. Apply

COLLINGWOOD SHIP-BUILDING COMPANY,

LIMITED

COLLINGWOOD - ONTARIO



PERHAPS *you will turn to page* 121 *of the big Reference Number of February,* 1916, *and read with me, the following words:—*

"All this, no matter from what source the influence may come, bespeaks a prosperous season ahead for agriculture. . . . Surely there never was a time for wiser planning on the Canadian farm than there is to-day, with a limited labor market, high-priced machinery, traction developments, parcel post, and world depletion, the chance for agriculture along business and scientific lines lies in almost a straight line."

No one could at that time with certainty foresee the course that prices would follow during the balance of the year. But the admonition about careful and wise planning at that time has been shown by subsequent events, to be most opportune. The farmer's profits and his usefulness to the country have been in direct proportion to his ability to plan wisely and well. Prices for all produce have advanced practically to the limit. All products have sold without much marketing importunity. What about next year?

The great war still goes on. Peace proposals have come from Germany. Their internal condition is likely the father of the move. It is unknown as yet how urgent these influences may become, but surely we are nearing an end. And peace will bring us back to new conditions of world reorganization of industry and commerce. But the history of past wars goes to show that the farmer's business has been the best one during these re-building days. That demand for farm produce will continue firm, and only ease off in a gradual curve is the general opinion. Provision stocks are at a low ebb. Foundation flocks and herds are not too numerous. Seed for next year will need to be conserved.

SOME GENERAL HINTS

CLEAN the seed grain at least twice and feed the small kernels

Keep the purebred animals recorded up to date and a private flock or herd book where all information about each can readily be ascertained

Give your local, whether of the Grange, U.F.O., United Grain, or the G.G. of Sask., a helping hand

Vermin in the stables are like the evil one, they work overtime when you are not watching.

See that the stock, even the sheep, can get water every day.

Get the young lamb into as much sunlight as you can.

The incubator should be all ready for active service any day now.

If wood has to be cut for summer use, it is best to get it off your hands as soon as possible.

Probably you will need a few cedar fence posts for next year.

If you have some money to invest after your conveniences are complete keep your eye on the war loan.

A basket of potatoes or a cord of wood to that poor family would show a proper spirit.

Watch young fruit trees for rabbits and mice.

Arrange your working credit with your local banker and cash as you go.

Binder twine is likely to be high in price. Watch for the best offers.

Get your catalogs of goods you have to buy next spring and secure your needs early.

Keep as well informed as you can on all things and perfectly informed on one thing.

AMONG THE HORSES

Keep an eye on the teeth and feet.

A rough coat denotes impaired digestion.

Keep the mangers clean of rubbish.

Full hay mangers all the time is poor policy.

Good draft horses will be needed shortly. Keep them ready.

Watch out for lice on the colts A good coal tar preparation should be used freely.

Exercise the work horses as much as your time will permit. A tread mill for power is the way some farmers are giving their horses exercise.

U.S and Europe will be calling for Canadian horses after the war.

How has alfalfa served your needs in the horse barns this year? Write us.

There are 3 divisions of the draft horse: light draft, 15-3 hands to 16-2 and weighing 1600 to 1750 lbs.; heavy, 16 to 17-2, weighing 1750 to 2200 lbs.; and loggers, 16-1 to 17-2, weighing 1700 to 2200 lbs.

Grinding or crushing oats increases their digestibility.

Reduce the grain rations of all horses on idle days.

IN THE CATTLE BARNS

Never was an awkward feeding barn more despised than in this year of help shortage.

Quiet ways among the cattle account for many pounds of extra flesh.

Aim for uniformity among the cattle by keeping the breeds as pure as possible.

See that cattle sheds have perfect ventilation.

Be sure you are feeding the dairy cow enough to sustain life and produce milk besides. Look up the feeding tables.

It will pay you to put a little extra meal into the feeders during March so that they will go on grass readily for a big bid for 12th July beef.

The lessons learned at the live stock shows should be used in next year's breeding.

If an animal is out of condition and it is believed that a tonic will be helpful try the following: Pulverized Gentian, 1 lb.; pulverized ginger, ¼ lb.; pulverized saltpetre, ¼ lb.; pulverized iron sulphate, ½ lb. Mix and give one tablespoonful in the feed once a day for 10 days, omit for 3 days and give for another 10 days

IN THE SHEEP BARN

Don't allow your sheep to stand in damp or dirty pens.

Hot house lambs need plenty of sunshine. Plenty of glass in the south pays.

Watch for the old ewes and separate them so that they can get a little better feed.

The ram should be removed from the flock.

There is no roughage to excel well-cured alfalfa hay. There is no danger of overfeeding.

Timothy hay is not suitable for sheep, as they cannot readily digest it and it is constipating in effect. The heads of the hay break off and get into the wool.

Don't forget to trim the feet. An old shepherd says that the feet should be trimmed at least 3 times a year.

The Indiana Experiment Station found that red clover hay made better gains on fattening lambs than alfalfa

IN THE PIG PENS

Pigs will come back in the spring with a vigorous squeal.

Plan to raise red clover or alfalfa for the hogs. The hog is a grazing animal.

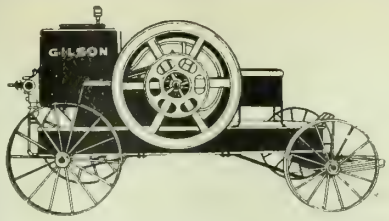
Keep the breeding stock recorded regularly.

Austria's pigs must be about done. She was the second largest producing country in the world.

Breed the pigs you like best, but breed them better than the next fellow.

A mixture of salt, charcoal and sulphur should be kept where the pigs can get it.

Have you any book in your library that is authoritative on hogs? Pro. G. E. Day has a good one out.



This Engine Will Cost You Nothing

You need an engine—get a Gilson on our new easy payment plan, and it will pay for itself. You have the work for it to do this Fall and Winter, help is scarce and high-priced—save yourself a lot of worry and enjoy that "feeling of security" which is such a definite part of the staunch, reliable Gilson Engine.

Gilson Engines have long enjoyed an indisputable reputation for dependability, power, simplicity, and economy. This year finds us with an even more attractive proposition for the discriminating buyer. Prices of everything you have been buying have been soaring, but, by careful management, we are able to furnish Gilson Engines at remarkably low prices. Write to-day for catalogue, price, and easy payment plan, stating what size you are interested in.

GILSON MFG. CO., Ltd, 2515 York St., Guelph, Ont.

"Best-by-Test" FERTILIZERS

It makes no difference what kind of soil your farm is, clay, sand or loam, or what kind of crop you want to grow. We have the kind of Fertilizer to suit both crop and soil. No farmer has any excuse for poor crops when, by intelligent selection, he can secure the "Best-By-Test" Fertilizer which will render his soil rich and productive. Bring your soil problems to us. We will give you the needed advice. Our Acid Phosphates and general Fertilizers have made a wonderful record of success. We can supply **POTASH, PHOSPHATES, LIME, PACKING HOUSE TANKAGE, BONE MEAL, HUMUS, NITRATE OF SODA, SPRAY MATERIALS, MIXED FERTILZERS** (any analysis), etc. Our quality is the best. The elements as supplied in our Fertilizers are more quickly soluble and therefore more quickly and completely absorbed by the growing plant. **WE ARE THE ONLY CANADIAN CONCERN WHICH MAKES THEIR OWN ACID PHOSPHATES AND THE ONLY CANADIAN CONCERN WHICH BASES THEIR MIXED FERTILIZERS FOR MONTHS BEFORE BEING SHIPPED.** Write for our free **BOOK ON FERTILIZERS.**

FIRST AID TO THE SOIL · BEST BY TEST · FERTILIZERS

Energetic Local Agents Wanted. *Good Territory Open.*

CANADIAN FERTILIZER COMPANY, Limited
21 MARKET CHAMBERS, CHATHAM, ONTARIO

Your Lame, Blemished Horses Need Attention Now

Don't delay—it's easier and cheaper to treat blemishes before they become deep-seated. A few applications of Absorbine well rubbed in acts quickly and effectively without blistering or laying up the horse.

Absorbine is concentrated—handy and economical to use. A few drops is all that is required at an application.

ABSORBINE

The Antiseptic Liniment

is used by successful trainers, breeders and horse owners the world over—it has increased the working and selling value of thousands of horses it has helped many horses break records on the track, and incidentally has made money for its users. Absorbine itself has a record of twenty-five years' service in producing successful results.

WHAT USERS SAY

Mr. Chas. Lawrence, Paoli, Pa.: "I have successfully used your Absorbine on a big knee of six months' standing. It certainly is the most remarkable liniment I ever used."

Mr. R. J. Crabtree, Maroa, Ill.: "I have never used anything equal to Absorbine for thoroughpin. I removed one of a year's standing. I would not be without it and have recommended it to my neighbors and friends."

USE ABSORBINE

to reduce bursal enlargements, bog spavins, thoroughpins, puffs, shoe boils, capped hocks, swollen glands, infiltrated parts, thickened tissues, rheumatic deposits, enlarged veins, painful swellings and affections; to reduce any strain or lameness; to reduce strained, ruptured tendons, ligaments or muscles; to strengthen any part that needs it.

Absorbine $2.00 a bottle at druggists, or postpaid upon receipt of price.

W. F. YOUNG, P.D.F., 482 Lymans Bldg., MONTREAL, CANADA

A BETTER ATTACHMENT FOR HOOKS ON HORSE COLLAR PADS

Our new patented staple and felt reinforcing device keeps hooks from pulling off easily, even when fabric is weakened by long use. It adds greatly to life of the pad. This form of attachment is

Found Only On Pads Made By Us

Ask your dealer for free Tapatco booklet. Shows pads in colors and contains valuable horse remedies. If he hasn't it, request him to write us direct.

The American Pad & Textile Co.
Chatham, Ontario
Main Office and Plant, Greenfield, O., U. S. A.

Patented in U. S. Dec. 1 1914.

Patented in Canada April 6, 1915

Farmers of Canada!

You are wanting a swift, sure and certain cure for udder troubles, chills and inflammation in Cows and Sheep. TRY the ALL BRITISH remedy

CATALINE

Cataline was first produced in England 25 years ago, and now has the largest sale of any cattle drench in the old country.

Cataline is sold in bottles containing sufficient medicine to make 8 Sheep Drenches, 4 Cow or Horse Drenches.

Each Drench Cures!

One bottle mailed direct to any address in Canada on receipt of 75 cents

CATALINE CO. BRISTOL, ENG.

In case of worms, a half teaspoonful of turpentine per hog in the feed for three doses is good.

IN THE ORCHARDS AND GARDENS

This is generally called the pruning month, although winter pruning generally makes for growth.

Delay pruning in the northern latitudes for a few weeks.

Use ladders on the outside for pruning.

Head in and properly direct the growth of the young trees.

Limbs growing straight into the air, as a rule, should be taken out.

If a heavy limb is sawed entirely from above it is almost sure to split down the bark when it falls. This is avoided by making an undercut.

There is no better time for pruning shade trees. Shrubs may also be pruned this month.

Among the shrubs and vines to prune this month are hydrangea, panicalotu, Altheas, viburnums, honeysuckles and Clematis Jackmani.

Watch for black knot on plum and cherry trees. Cut off infected part a foot below and burn it.

Better wait till March to trim the roses. Climbing roses do not require much trimming.

Orders for fruit and shade trees should be placed at once.

Look over the trees for the eggs of the tent caterpillar and destroy where possible.

A Dormant spray can be applied this month if the weather is suitable. Use plenty of lime to reflect sun's rays from the bark.

Tramp firmly around your trees to keep mice from working, and if rabbits are bad wrap the trunks.

Have you a plan of your orchard with the names of the varieties marked with dates of planting, etc.? It will help the general public if all do this.

WITH THE BEES

Snow on the bee hives will help to keep the inmates warm, but it must be kept from the entrances.

Bees need air and if ice gets over the entrance they will smother.

New hives may be made this month and old ones properly cleared and disinfected.

Keep an eye on the weak swarms and feed if necessary.

GREENHOUSE WORK

Sow seeds of the bedding plants the last of the month. Asters, hollyhocks, cosmos, ageratum, cockscomb, petunias, salvia, Drummond's phlox, snapdragon, and forget-me-nots are among those recommended.

Sweet peas, stocks and mignonette may be started for blooming.

Cuttings from fuschias will make good plants for next winter.

Cyclamen is one of the very best plants for house decoration this month.

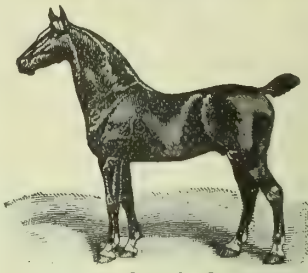
Force the rest of your flowering bulbs. Some seedsmen sell bulbs in pots ready to bring into heat

Re-pot the palms this month. Do not increase the size of the pots much, if any.

Forsythias, lilacs, flowering almonds and even fruit tree branches may be flowered in the house if brought in the

Warranted to Give Satisfaction.

Gombault's Caustic Balsam



Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for **Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.**

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable.

Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. ☞Send for descriptive circulars, testimonials, etc. Address

The Lawrence-Williams Co., Toronto, Ont.

Raw Furs

It will pay you to ship all your furs to a reliable house, where you get full market value. Ask for our price list and shipping instructions.

EDWARD POLLAK & CO.
280 St. Paul St. West, Montreal, P.Q.

Tobacco Habit Easily Overcome

A New Yorker of wide experience, has written a book telling how the tobacco or snuff habit may be easily and quickly banished in three days with delightful benefit. The author, Edward J. Woods, 7 B, Station E, New York City, will mail his book free on request.

The health improves wonderfully after tobacco craving is conquered. Calmness, tranquil sleep, clear eyes, normal appetite, good digestion, manly vigor, strong memory, and a general gain in efficiency are among the many benefits reported. Get rid of that nervous, irritable feeling; no more need of pipe, cigar, cigarette, snuff or chewing tobacco to pacify morbid desire.

They die outdoors!

Rats spoil your grain, kill your chicks, cost you much money, cut down your profits. Just crumble up a

Rat Bis-Kit

where they run. Rats seek it, eat it and die outdoors. Easiest, quickest, cleanest way. Price 25c at all drug and general stores.

The Rat Biscuit Co. Springfield, Ohio U.S.A.

For roaches and water bugs use Rat Bis-Kit Paste —the new Poison in the Tube—25c.

latter part of the month Place in warm water in a sunny window

A start with vegetables may be made by planting lettuce, cabbage and cauliflower, the plants to go to the cold frames when large enough.

IN THE POULTRY YARD

Set up incubators for use.

Eggs of heavy breeds should go into incubators at end of month.

Put in your order for day old chicks.

Did you ever try having your eggs hatched at a hatching plant?

Gather the eggs for hatching purposes several times a day.

Renew the litter on the poultry house floor.

Glass windows should be washed and muslin curtains cleaned.

If a start with ducks, geese or turkeys is to be made, eggs or breeding stock should be ordered at once.

In geese, Toulouse and Embdens are the popular breeds, the former are gray and the latter white.

Among the ducks, Pekins, Indian Runners and Rowens are raised in considerable numbers.

Indian Runners ducks are often termed the Leghorns of the duck world.

The hatching period is 28 days and hens generally do the incubating.

The white Pekin is the market duck. They are marketed when 10 or 11 weeks old.

Growing ducklings for market is a profitable but highly exacting business.

Rowens are good ducks for the average farmer to raise . They have dark plumage.

In February and early March, the breeding turkeys should not be fed many beef scraps or much other nitrogenous food which would be likely to induce early laying. The last of March or early April is the time for turkey eggs to come.

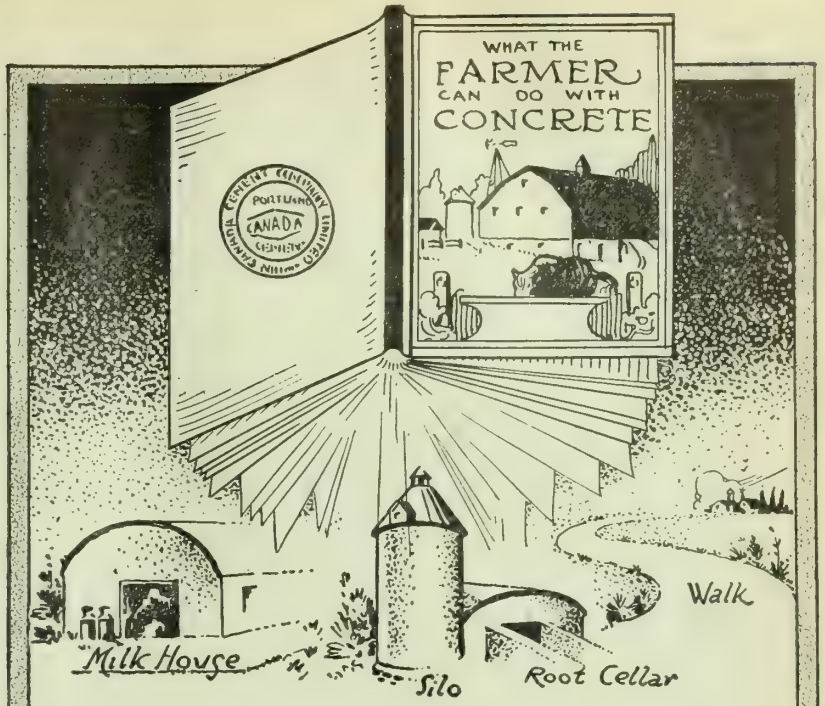
The first of June is early enough for the young poults to hatch. And turkeys are good property after one gets them raised.

After using a pure-bred male in your flock for three or four generations, you will be amazed at the effect which it has on a variegated mongrel-looking lot of birds, and also the uniformity and degree of excellency which you have attained.

LIVE *vs.* DEAD WEIGHTS OF ANIMALS

The carcase yield of animals varies according to their age, size, condition, form and degree of finish, etc., from 40 to 68 per cent. of live weight in the case of cattle; 40 to 65 per cent. for sheep; 70 to 88 per cent. for pigs and 40 to 70 per cent. for calves. The common supply of cattle will average about 55 per cent., sheep about 50 per cent. and swine from 75 to 80 per cent. Following are the dressing losses in a steer weighing 1,200 lbs.:—

Part	Weight, lbs.	Per cent. of live weight
Head	32	2.16
Feet	19	1.58
Pluck	26	2.17
Liver	13	1.08
Tongue	3	0.25
Tail	1.4	0.12
Intestines and contents	36	3.00
Blood & paunch contents	225	18.75
Paunch	32	2.66
Paunch and intestinal fat	28	2.33
Hide	75	6.25



A BOOK FULL *of* SUGGESTIONS

Now Offered

FREE

In the pages of this Free Book you will find practical directions for the construction of more than a hundred permanent improvements on your farm.

Most of these improvements can be made in the spare time of yourself and your help—from materials close at hand. Every shovelful of concrete adds to the value of your farm, and increases your profits from it. "What the Farmer Can Do With Concrete" is a book full of suggestions and instructions. It tells all about Concrete Improvements in plain language free from technical terms.

A few *of* the subjects covered: *Barns, Foundations, Feeding Floors, Engine Bases, Concrete Blocks, Root-Cellars, Milk Houses, Fence Posts, Silos, Dairy Barns, Hog Houses, Poultry Houses, Cellars, Watering Troughs, Mixing and Laying Concrete, etc.*

Get your copy now—just send your name and address to

Canada Cement Company, Limited

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A Vast New Land Waiting for You

Settle in Northern Ontario

Opportunity awaits the man who will strike out to the rich, fertile land of Northern Ontario. Millions of acres of virgin soil obtainable free, at a nominal cost, are calling for cultivation. This land contans immense resources in timber, mineral, water-power, fish, game and scenery, and is one of the greatest expanses of fertile territory in the world. This land calls for men to cultivate it; in return it will give health, comfort and prosperity. Thousands of farmers have responded to the call. How about you?

For full information, as to terms, regulations and settlers' rates, write to

H. A. MACDONELL, Director of Colonization

HON. G. HOWARD FERGUSON
Minister of Lands, Forests and Mines

Parliament Buildings
TORONTO, ONT.

The war has created an unprecedented demand for SOCKS-FOR-THE-SOLDIER-BOYS and affords a Grand Opportunity to anyone interested in uniting Loyalty, Patriotism and Self-Interest by investing in a First-Class Family Knitting Machine for RED CROSS SOCKS, MONEY-MAKING, HOME WORK AND MILITARY SOCKS.
DO IT NOW—Write for our Free Latest Catalogue No. 101, with SPECIAL WAR OFFER to Red Cross workers during the war only. YOUR CHOICE OF 6 MACHINES. Agents wanted for our Home-money maker machines. Address

CREELMAN BROS., M'fgr's
Box 677 Georgetown, Ont.

A $10 Washer Sold Direct for $7.50

You Get The Middleman's Profit

There are 100,000 KNOLL Washers in use today, and not one has been returned. Every user is more than satisfied. The KNOLL is a great labor-saver. No hand-rubbing is required. There is no wear and tear on the clothes. The KNOLL is a perfect worker and takes the dread out of any washing day.

Thousands of testimonials like the following have reached our office in praise of the Knoll:

Gentlemen: "My Washing machine is broken, and one of my neighbors loaned me her Knoll. I liked it so much I am sending a money order for $7.50, so that I can have a KNOLL of my own."

Can you afford to be without this best and cheapest washer — only $7.50 f.o.b. Brantford. Money gladly returned if you are not satisfied.

We also manufacture a number of practical Kitchen Aids and Helps for the Housewife. **Write for Schultz Catalogue of Handy Things to have.**

Schultz Bros. Co., Ltd. BRANTFORD CANADA

SEE OUR CLASSIFIED COLUMN ON PAGE 40. ADVERTISING LIKE THIS BRINGS RESULTS.

A Woman Who Looked Up

By GENEVIEVE

THERE is a beautifully sad story which tells of a woman who was suddenly stricken with an illness which necessitated her lying upon her back for the rest of her life. But she was a brave woman, and undaunted by the news the doctor brought her, she began at once to make plans for the days which stretched before her.

"If I must lie on my back," she said, "I will live, not in a dull room looking at the ceiling, but upon my roof looking at the stars and the moon, and the wonderful storms that make the heavens glorious."

She lived in the heart of the city, but she had a little roof garden made on top of her house, surrounded by her neighbors' chimneys. It was a garden in summer and a room with a glass top for winter, and it was to be her dwelling-place for the rest of her life. She had been a busy woman and had never had time to study astronomy. Now she found her opportunity. She smiled up at the heavens watching the miraculous procession of flame as it travelled on its endless journey; she followed the inconstant moon and timed her life by its moods; and she revelled in the lightning when it flashed its mysterious pattern on the clouds. And many a night she forgot her pain in the great cosmic forces above her. She told her friends of the wonders she saw and she started them thinking. She made the most of a great misfortune.

And what a vision she got from her confined environment, just because she looked *out* and *up*. How considerate for those around her was her unselfish patching up of her broken life.

WORK, PLAY, LOVE AND WORSHIP.

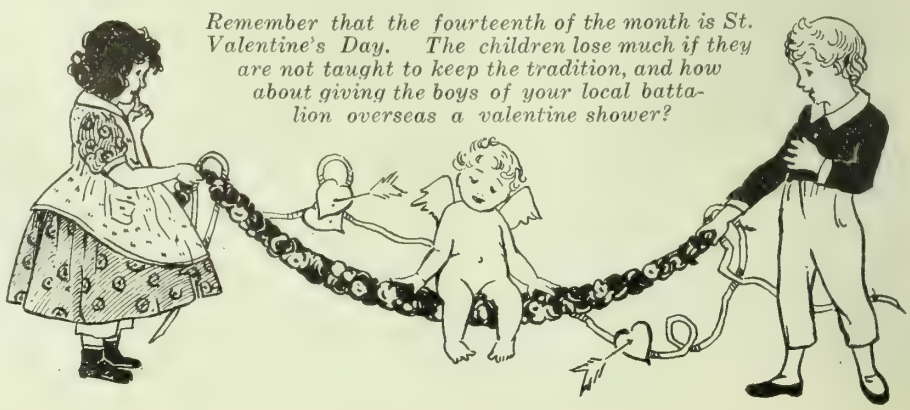
A few years ago Dr. Cabot, of Harvard University, was commissioned by the Social Department of the State General Hospital to work out three of the most difficult problems that have ever baffled medical science: What is the best way to care for the tuberculous? How can "nervous people" (neurasthenics) be restored to balance and happiness? Where can we find help that is worth offering to a girl facing motherhood without a husband?

The first idea for all these sufferers is an institution; a sanitarium for the tuberculous, a nervine for the neurasthenic, a "rescue home" for the unmarried mother; and the solution contents us for a time. But further experience shows us how limited is the good which an institution can do. The herding together of special miseries in one place invites the danger of physical or moral contagion. More individual attention is needed for each body and soul. Mass-treatment will accomplish only the first stages of cure.

After serious research Dr. Cabot decided that the only relief for these ills of the soul must come through getting the patient back into real life—through the medium of four things—work, play, love and worship. And though he came to this belief first from a doctor's point of view, he soon observed that the classes of people whom he was trying to help as patients, were not the only ones who needed these great medicines—that without them every man, woman and child must sooner or later suffer; that if you want to keep a headstrong youth from overreaching himself and falling, these must be the elements of strength; that when you try to put aspiration into any wavering character, you will fail unless you can give responsibility, recreation, affection, and through them a glimpse of God. With these any life is happy in spite of sorrow and pain; successful in spite of bitter failure.

This brief glimpse into Dr. Cabot's philosophy is worth pondering. How can we make these four essentials of a complete life, work, play, love and worship, count for more in our homes and in the community? We should be glad to have from our readers any suggestions for our next month's Kitchen Window.

Remember that the fourteenth of the month is St. Valentine's Day. The children lose much if they are not taught to keep the tradition, and how about giving the boys of your local battalion overseas a valentine shower?



THE MONTH'S RECIPES

CREAM OF LIMA BEANS.

1 cup lima beans
6 cups cold water
1 onion
Few slices of carrot
1 cup milk
4 tablespoons butter
1 teaspoon salt
½ teaspoon pepper

Soak the beans over night. In the morning drain, add cold water, cook until soft and rub through a sieve. Cut up the vegetables and cook for five minutes in the butter, stirring to keep them from turning brown. Lift out the vegetables and add these with the milk to the beans. Stir the flour into the butter and when well blended stir into the bean mixture over the fire until it thickens. Add the salt and pepper and serve.

SALMON SOUP.

1-3 can salmon
1 quart scalded milk
2 tablespons butter
4 tablespoons flour
1½ teaspoons salt
Few grains pepper

Blend the flour and butter over the fire, gradually stir in the milk. When well thickened add the salmon, salt and pepper. Reheat and serve.

LIMA BEAN CUTLET.

1½ cups lima beans
½ cup dry bread crumbs
1 teaspoon salt
Few grains pepper
1 egg
Milk to moisten if necessary
2 tablespoons chopped parsley

Cook the beans, drain and mash. Add the crumbs, salt, pepper, parsley and half the egg which should be beaten. Add the milk to moisten, if necessary, and shape into cutlets or croquettes. Add two tablespoons of cold water to the beaten egg which is left, roll the croquette in dry bread crumbs, then in the egg, again in crumbs and fry or saute on a greased pan. If the mixture has been shaped into cutlets, a stick of macaroni may be stuck in the end to represent the bone. Garnish with parsley and serve in the place of meat.

BROWN KIDNEY STEW.

Soak kidneys for half an hour in salted water. Slice, sprinkle with a very little salt and pepper, roll in flour, and fry in butter or sweet dripping until nicely browned. Remove the kidneys and put two tablespoons butter and a tablespoon chopped onion in the pan. Fry until brown, add 3 tablespoons flour and 1½ cups boiling water. Stir until it thickens, pour over the kidneys and cook slowly for about five minutes before serving.

TOMATO SAUCE.

1 can tomatoes or
1¾ cups fresh stewed tomatoes
1 small onion (if desired)
3 tablespoons butter
3 tablespoons flour
½ teaspoon salt
Few grains pepper

Cook onion with tomatoes fifteen minutes and rub through a sieve. Cook the flour and butter together until well blended and stir into the tomato until it thickens. Add salt and pepper and serve. If the flour and butter are cooked together

You Sell Something to Somebody

AND to that somebody you must make known—by advertising—what you sell, why it is good, and so on. Also you must have a medium—a publication read by your customers or should-be customers.

All this you consent to without demur. What may perplex you a little is the **Medium** to employ.

This should not be a puzzle if your product or commodity is one purchased by the general public, and if your constituency of buyers is found everywhere in Canada.

The one medium of quality and of national circulation is

MACLEAN'S MAGAZINE

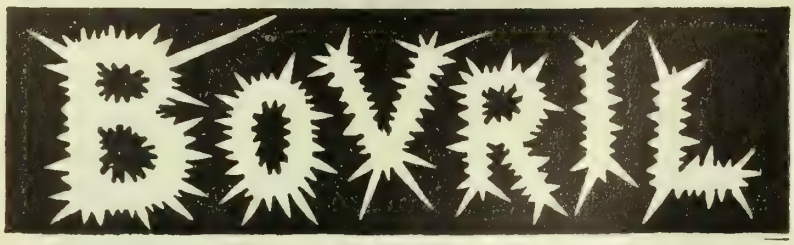
You can find no substitute for it at a lower cost, and none that will carry your proposals or announcement with greater acceptability.

The conclusion is plain.

N.B.—Objectionable advertising not accepted. Both editorial and advertising columns are closely censored to keep them clean and decent.

Published by

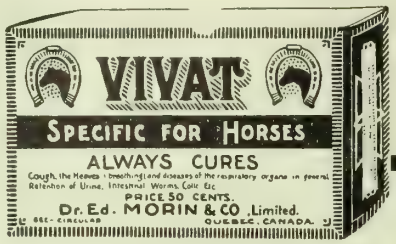
The MacLean Publishing Co., Limited, 143-153 University Ave., Toronto



fortifies the system against the encroachments of disease

6A

Makes Vigorous Stock



Keeps Horses Well

A Pair of Winners

"OMAZON" a Canadian Stock Food will give your stock vigor and increased endurance. The nutritive qualities of this food make worthy of a place wherever stock is kept.

It is a great blood purifier. It prevents and cures diseases, unequalled for increasing the quantity and quality of milk in mare and cow. Put it to the test and you will find it a great economy. When mixed with food it cuts down the usual amount of grain required.

VIVAT is a good friend to horses and saves the farmer many veterinary bills.

It cures Coughs, Heaves, Broken Wind, etc. Beneficial in cases of Colic, Intestinal Worms and Kidney Troubles. Special directions for each case. A great remedy for the Respiratory Organs. It also increases appetite, gives vigor, breath and endurance, specially to race horses and those travelling and working hard.

Ask your merchant for our preparations.

Proprietors, DR. ED. MORIN & CO., LIMITED
Mountain Hill, Quebec, Canada
Ask for Circular F.

Columbus Discovered America in 1492—

He grasped his Opportunity and opened the Gateway of a new World and to subsequent Fortune to Millions of People—And so, from Generation to Generation untold wealth and Opportunity has been at the command of the Masses!

Have You Discovered Your Opportunity in 1916?

Do you realize that one of the most Profitable, Healthful, Fascinating, and Carefree Professions is that of the Western Farmer!

The Canadian Northern Railway Offers You a Golden Opportunity!

The most fertile Districts in the whole of Western Canada are served by the Lines of the Canadian Northern.

Don't Envy the Farmer—Be One!

For further Particulars of Homesteads open for free entry, also Routes, Fares, etc., consult nearest C.N.R. Agent, or write today for our "Homeseekers' and Settlers' Guide," see what others have done and what you can do in this land of Sunshine, to **General Passenger Dept., 68 King St. E., Toronto, Ont., 226 St. James St., Montreal, Que., or Union Station, Winnipeg, Man.**

until they brown, the bright red color of the tomatoes will be retained.

BAKED FISH WITH STUFFING.

Bone a whitefish or salmon, and stuff with the following:

½ cup cracker crumbs
½ cup stale bread crumbs
4 tablespoons melted butter
½ teaspoon salt
⅛ teaspoon pepper
Juice of ½ small onion
1 tablespoon chopped parsley
1 tablespoon chopped pickles
Moisten with hot water or leave the dressing dry and crumbly as desired.

Bake on a pan lined with a thick greased paper, or place broad strips of cotton under the fish so it will lift without breaking. Garnish the platter with parsley or celery curls. The fish is better if accompanied by some tart sauce like tomato sauce.

BEEF LOAF.

2 lbs. lean beef, cut from the round
Grated rind and juice of ½ lemon
1 tablespoon chopped parsley
1 egg
Juice of 1 onion
2 tablespoons melted butter
Few gratings nutmeg
1 teaspoon salt
¼ teaspoon pepper

Shape into a loaf by packing solidly into a bowl or mould, then turn out on a dripping pan, and bake thirty minutes. Baste every five minutes with one-fourth cup butter or sweet dripping melted in one cup boiling water. Serve with tomato sauce.

BRAISED CABBAGE.

1 head of cabbage
1 tablespoon bacon fat
1 small onion
1 tablespoon flour
½ cupful stock or water
Salt and pepper to taste

Shred the cabbage; melt the fat in a heavy pot, add the onion chopped and when this is cooked almost soft, stir in the flour, stock and cabbage. Cover and cook until the cabbage is tender, about forty-five minutes. Season with salt and pepper.

CORN FRITTERS.

½ can corn
½ cup flour
1 teaspoon salt
⅛ teaspoon pepper
1 egg

To the corn add the dry ingredients mixed and sifted, then stir in the beaten yolks of the eggs and fold in the stiffly beaten whites. Drop in spoonsfuls on a hot greased pan and when browned on the bottom turn and brown on the other side.

PLUM PUDDING (NO EGGS).

1 cup chopped suet
1½ cup bread crumbs
1 cup brown sugar
1 cup flour
½ teaspoon soda
1 teaspoon cinnamon
1 small teaspoon cloves
1 teaspoon nutmeg
½ teaspoon mace
1 cup sour cream
1 cup raisins
1 cup currants
4 tablespoons mixed peel
2 teaspoons lemon juice

Mix together the suet, crumbs, peel and sugar. Roll the fruit in flour. Sift together the flour, salt, soda and spices and add these to the first mixture, alternately with the cream. Stir in the floured fruit, and if necessary add a little more flour, or if too stiff a little milk, to make a soft dough. Stir in the lemon juice last. Roll in a floured cloth and boil about four hours.

"Gilt Edge"

The only black dressing for ladies' and children's shoes that positively contains **OIL.** Softens and preserves. Imparts a beautiful black lustre. **LARGEST QUANTITY. FINEST QUALITY.** Its use saves time, labor and brushes, as it **Shines without brushing. Sponge in every bottle, so Always Ready for Use.**

Also for gents' kid, kangaroo, etc. 25c.

"QUICK WHITE" (in **liquid** form with sponge) **quickly cleans** and **whitens**, dirty **canvas** shoes. 10c. and 25c. **"ALBO" cleans and whitens BUCK, NUBUCK, SUEDE** and **CANVAS SHOES.** In round white cakes packed in zinc boxes, with sponge, 10c. In handsome, large aluminum boxes with sponge, 25c.

"ELITE" combination for gentlemen who take pride in having their shoes look A1. Restores color and lustre to all black shoes. Polish with a brush or cloth, 25c. **"BABY ELITE"** size, 10c.
"DANDY" combination for **cleaning and polishing** all kinds of russet or tan shoes, 25c. **"STAR"** size, 10c.

ASK YOUR DEALER FOR

WHITTEMORE'S
Shoe Polishes

"A Stitch in Time"—
to those about to build

You know that your friends who have built homes wish that they had done something else or something different, in order to have secured better results. The little or big errors made in

choosing a site, an architect, a builder, a design, a style, a plan

and so on, have cost many times the price of the book which they could have had for $1.50 ($1.65 when sent by mail)—the book entitled

BUILDING A HOME

By Desmond and Frohne, editors of *The Architectural Record.*

And if you are going to build this year or in some near year, you will find the advice and help of this book invaluable. Its price pales away when its real value to you is weighed.

Send for the book. Have it placed in your Public Library, if you have influence. Add it to your own library. It is a handsome volume, with many illustrations.

The MacLean Publishing Co., Limited
143 University Avenue, Toronto, Ont.

PRUNE SHORT CAKE.

1 quart flour
3 teaspoons baking powder
4 tablespoons butter
¼ cup white sugar
½ cup sweet milk

Add a little more milk if necessary to make a soft dough, toss on a floured board, roll and pat to ½ inch thickness and bake in two jelly cake tins, unless you prefer to bake the dough in one cake and split before filling. Remove the stones from about three cups of stewed prunes, and while the cake is baking make the following lemon filling:—

¾ cup sugar
3 tablespoons flour
Grated rind and juice of 1 lemon
¾ cup boiling water
½ tablespoon butter

Mix the flour and sugar together, gradually stir in the hot water, add the lemon juice and rind and the butter. Pour this over the prunes and use for filling between the layers.

APPLE CRUMBLE.

4 cups sliced apples
1 cup sugar
1 teaspoon nutmeg
About ½ cup hot water
¾ cup flour
¼ cup butter

Put the sliced apples in a buttered pudding dish, in layers, sprinkling each layer with the nutmeg and sugar. This will take about one-half cup sugar. Add the water. Mix the flour, butter and the rest of the sugar and sprinkle over the apples. Bake in the oven until the apples are tender and the crust well browned.

GRAHAM GEMS.

1 cup Graham flour
1 cup white flour
¼ cup sugar
1 teaspoon salt
1 cup milk
1 egg
1 tablespoon melted butter
4 teaspoons baking powder

Mix and sift the dry ingredients; add the milk gradually, the egg well beaten, and the melted butter; bake in buttered gem pans or dropped in a greased pan, in a hot oven for about twenty-five minutes.

NUT LOAF.

4 cups flour
2 teaspoons baking powder
1 teaspoon salt
4 tablespoons butter
¼ cup sugar
1 egg
1 cup sweet milk
1 cup chopped dates
1 cup chopped walnuts

Put in buttered loaf pans and let rise one-half hour before baking.

COOKIES.

1½ cups brown sugar
1 cup butter
2 eggs
½ cup sour cream
1 teaspoon soda
Flour

Cream the butter and sugar, and beat the eggs with it. Dissolve the soda in the cream and stir into the mixture. Add flour to make a dough stiff enough to roll out. When cut and in the pan they may be sprinkled with granulated sugar.

GRAHAM CAKE.

1¼ cups granulated sugar
⅜ cup butter
½ teaspoon nutmeg
1 cup sour milk
1 level teaspoon soda
1½ cups Graham flour
½ cup white flour
¾ cup raisins

BEING a practical housekeeper, I have the same daily problems to solve in these days of high cost of living that you have. I have them in my business as well.

This experience has taught me how to make with our Sparkling Gelatine, dainty desserts, salads, etc., that are perfectly delicious, and that serve the most people at the least cost,—below is a recipe that proves it.

In the March Magazines I will give another economical recipe.

Mrs. Charles B. Knox
President

KNOX IVORY JELLY

Soak 1 envelope Knox Sparkling Gelatine in half cup milk 5 minutes. Scald 3 cups milk with ¾ cup sugar, and add soaked gelatine. Strain, cool slightly, add 1 teaspoonful vanilla and turn into a mold first dipped in cold water and chill. Serve with a boiled custard, preserves, melted currant or other jelly or canned fruit.

KNOX
SPARKLING GELATINE

One package will make a jelly serving 18 people or you can measure the gelatine to make an individual dish.

Recipe Book FREE

We will send you this book, "Dainty Desserts for Dainty People," on receipt of your grocer's name. If you have never used Knox Gelatine, enclose 4c in stamps if you wish a pint sample.

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180 St. Paul St. West
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Desk 28, Dept. of Natural Resources C.P.R.
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CROWN BRAND CORN SYRUP PURE

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A slice of your good homemade bread, spread with "Crown Brand", forms a perfectly balanced food, that is practically all nourishment.

So—let them have it on biscuits and pancakes, and on their porridge if they want it.

You'll like it, too, on Griddle Cakes—on Blanc Mange and Baked Apples. And you'll find it the most economical sweetener you can use, for Cakes, Cookies, Gingerbread and Pies.

Have your husband get a tin, the next time he is in town—a 5, 10 or 20 pound tin—or a 3 pound glass jar.

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MONTREAL, CARDINAL, BRANTFORD, FORT WILLIAM.
Makers of "Lily White" Corn Syrup—Benson's Corn Starch—and "Silver Gloss" Laundry Starch.

220

Our new recipe book, "Desserts and Candies", will show you how to make a lot of really delicious dishes with "Crown Brand". Write for a copy to our Montreal Office.

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(Simonds Crescent Ground Saw No. 22)

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Simonds Canada Saw Company, Limited, Montreal, Que., Vancouver, B.C. St. John, N.B.

Irish Co-operation Succeeding

George W. Russell, in the *Irish Homestead*, tells of the way farmers are being brought together.

The co-operative movement might be regarded as a training college where the democracy acquired that practical knowledge of economics, of the problems of business conducted in the large and modern way, a knowledge which in past time had been confined to wealthy people. The most wonderful development of business conducted on democratic lines in Ireland, a business undertaking which in its way could be compared, we believe, favorably with any business of the kind in Ireland run by individuals or companies, is the great co-operative society in Belfast, a society whose trade turnover is now half a million yearly, whose central premises are fitted up in a way and on a scale which would dwarf any retail establishment in the capital city of Ireland, with hundreds of employees, workshops and fitting rooms so large, well ventilated and airy that we do not believe the workers in any similar business carry on their employment under such good conditions. There is the huge co-operative bakery, the milk depot where milk for the members is pasteurized and is from thence delivered in sealed bottle to the members. There are over twenty branch establishments of this society in the City of Belfast.

Co-operative societies like Belfast and Lisburn springing up in the Irish towns, are doing there what our co-operative societies are doing in the country. The urban workers are going into business on their own account, just as the workers on the land have been going into business on their own account. A quarter of a century ago farmers in the country and the workers in the towns were completely outside the circle of business. Of course they had their own personal business on farm or in warehouse or factory, but that did not give them any knowledge of the conduct of business in a large way. That was taken out of the farmers' hands by the dealers and agricultural middlemen, and the workers in the cities were shut out from the offices where the buying and selling and manufacturing policy was originated. Now the situation is changing. The democracy in Ireland are beginning to go into business in earnest on their own account. The farmers are beginning to manufacture their own bacon factories. The butter industry is practically controlled by their own representatives. The buying of agricultural requirements is more and more becoming a farmer's business, and their great agricultural wholesale is growing year by year. One branch of rural business after another formerly in the hands of capitalist middleman is reverting to the farmers.

These changes take place so gradually and co-operators themselves are so absorbed in their enterprises that they hardly realize what changes in the character of Irish civilization their activities are bringing about. We believe if individual co-operators in town and country could get a vision of the whole co-operative movement in Ireland and saw its achievements they would be amazed and they would be filled with pride and, still more, with hope. We believe this year that the total co-operative trade in Ireland, urban and rural, will be well over five million pounds, and when one thinks of the business capacity required to run these thousands of societies, of the experience gained by the committees, we begin to have confidence that the principle of co-operation before another generation has passed will have become fundamental and dominant in Ireland and will have adherents more numerous than any other economic theory in Ireland. We hope for an alliance of the rural and urban co-operators to defend and support the application of the principle they both acknowledge.

Select Styles For Home Dressmaking

ONE OF the most noticeable changes in the new spring gowns is the passing of the hip drapery and the hoop effect and the introduction of the slim silhouette. Of course there are still charming dresses that are draped, but the effect is that of long lines. There is just as much material in these skirts that hang so straight as in the ones of last year; gathers, folds and pleats are cunningly arranged to give the required fullness, and the skirts are also a trifle longer this season, which does not detract at all from the smartness of the costume.

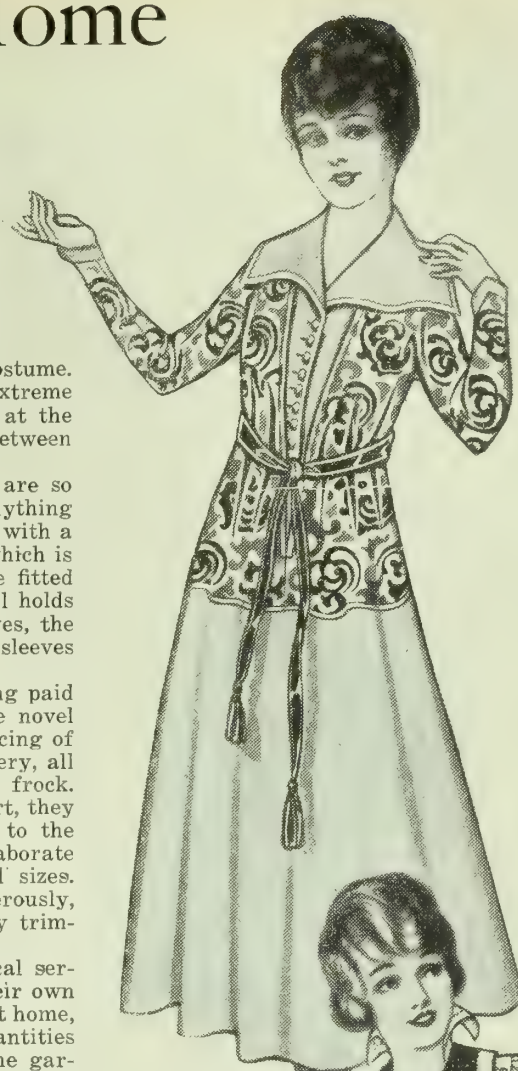
Fashion is very lenient in the matter of waist-line. At one extreme is the long waist copied from the costumes of the Middle Ages; at the other the high waist which is so becoming to the youthful figure; between is the normal waist, rather more popular than usual.

One-piece dresses will be great favorites this spring. They are so easy to make, and so attractive that they are more popular than anything else for street wear. Many of them are pleated from the shoulder with a loose belt or sash around the waist. Then there is the coat dress which is particularly becoming with its redingote effect. Waists that are fitted seem to belong to the full skirts, but the loose Russian blouse still holds its own. Sleeves may be long or short, full or tight. Set-in sleeves, the drop shoulder and the body and sleeves cut in one, are all good style.

A great deal of attention is being paid to the details of a costume. The novel shaping of collar and cuff, the placing of the belt, and the touch of embroidery, all add distinction to the simplest frock. Pockets still play an important part, they seem to have become a necessity to the modern woman. Some are most elaborate and you can find all shapes and sizes. Buttons also are used generously, sometimes they are the only trimming on a dress.

To be of the most practical service to women who make their own and their children's clothes at home, we furnish patterns and quantities of materials required for the garments illustrated here.

Waist—8259 Skirt—8388



8541

Waist 8410

Skirt 8577

8388—Ladies' Skirt. With slightly high waistline and in clearing or shorter length. Having a plain front and back gore and gathered sides. Size 24 measures about 2½ yards at the lower edge. Size 24 requires 3⅞ yards of 36 or 42 inch, 2⅞ yards of 54 inch material. Price, 15 cents. Sizes 24, 26, 28, 30, 32 inches waist measure. 40, 42, 44, 46½, 49 inches hip measure.

8259—Ladies' Waist. Having a removable chemisette, a surplice vest, one-seam sleeves dart-fitted to the elbow, flowing sleeves in either of two lengths and flaring collar which may be rolled down. Perforations are given for facing waist in pointed outline as shown. A blouse lining is given. Suitable for bordered or other materials. Size 36 requires 3⅛ yards of 36-inch, 2¾ yards of 42-inch if made of one material with full-length sleeves; or 2¼ yards of 36-inch striped material for waist with flowing sleeves in shorter length, 2⅝ yards of edging 8 inches wide for vest and ruffles, ¼ yard of 21-inch lace for flaring collar and 1¼ yards of 36-inch net for waist and sleeves. Price, 15 cents. Sizes 34, 36, 38, 40, 42 inches bust measure.

8541—Ladies' Dress. As shown, size 36 requires 2⅞ yards of 36-inch charmeuse for collar and lower part of dress with 2⅝ yards of 36-inch figured silk for upper part. Price, 15

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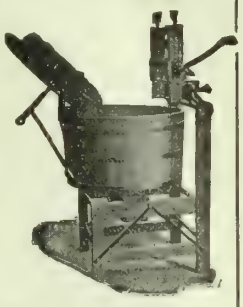

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8487

8375

8358

cents. Sizes 34, 36, 38, 40, 42 inches bust measure.

8410—Ladies' Waist. Sizes 34 to 44 bust.

8577—Ladies' Skirt. Sizes 24 to 32 waist. The medium size requires 3⅜ yards of 54-inch broadcloth, with 4¼ yards of 36-inch satin for collar and skirt facing. Price 15 cents each.

8375—Little Girls' Coat. Having front of waist in one with the panel one-seam sleeves with or without turnback cuffs, and a straight gathered skirt. Size 2 years requires 2⅜ yards of 36-inch, 1⅞ yards of 42-inch, or 1⅜ yards of 54-inch if made out of one material; or 2⅛ yards of 36-inch, 1¾ yards of 42-inch, or 1¼ yards of 54-inch material for coat, ⅜ yard of 36-inch linen or lawn for collar, cuffs and sleeve bands, 1¾ yards of insertion and 3¼ yards of edging. Price 10 cents. Sizes ½, 1, 2, 4, 6 years.

8358—Girls' Dress. Having a guimpe in high or open neck with one-seam sleeves in full or shorter length, a straight side-plaited skirt and an overblouse to be slipped on over the head and buttoned at underarm. Size 8 years requires 2⅞ yards of 36-inch, or 2⅜ yards of 42-inch for overblouse and skirt, and 1⅛ yards of 36-inch material for guimpe with full-length sleeves, or if guimpe is made as illustrated 1 yard of 36-inch material, with 3 yards of edging and 2 yards of banding. Price 10 cents. Sizes 4, 6, 8, 10, 12 years.

8487—Juniors' and Girls' Coat. Having fronts rolled open or closed to the neck and two-seam coat sleeves. Pockets, belt and cuffs may be omitted. Size 12 years requires 4 yards of 36-inch, 3½ yards of 42-inch, or 2⅝ yards of 54-inch material, or if made as illus-

8414

FARM BOOKS THAT HELP

Keep adding to your library a few good works about your business. The following books will be sent post-paid to you upon receipt of the prices named.

Shorthorn Cattle
By Alvin H. Sanders
Editor Breeders' Gazette
The leader for breeders of Shorthorn cattle in America, with a history of the British work.
$2.10, postpaid; half leather, $2.60

The Story of the Herefords
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A companion volume to the one on Shorthorns and represents the latest in the *Whitefaces.*
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Alfalfa in America
By Joe E. Wing
The full story of the growing, cultivation and curing of this great hay crop.
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By Geo. E. Day
Prof. of Animal Husbandry at the O.A.C., Guelph
330 pages, with 75 illustrations, descriptive, and treats of breeding, management, marketing and disease. Lippincott Series.
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The standard book in America for feeders of livestock. A new, revised, up-to-date edition is out.
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368 pages and treats fully the whole subject.
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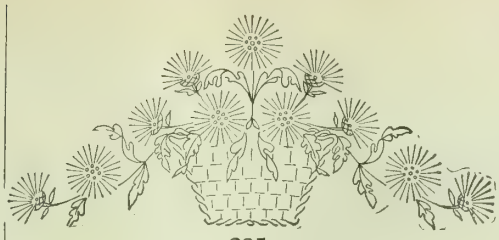

235

trated in front view, size 12 years requires ⅜ yard of 54-inch for cloth for collar, cuffs and belt. Serge, velours, velveteen, corduroy, suede cloth, tweeds, diagonals, frieze, gabardine and velvet cloth may be used. Price 10 cents. Sizes 8, 10, 12, 14 years.

8414—Juniors' and Girls' Dress. Having high or open neck, one-seam sleeves in full or shorter length and square bertha collar, and a straight gathered skirt. Suitable for flouncings or other materials. Size 12 years requires 3 yards of 36-inch, or 2⅝ yards of 42-inch material for dress with short sleeves. Price 10 cents. Sizes 8, 10, 12, 14 years.

235—Design for Ends of Table-Runners. Transfers for two motifs sixteen and one-half inches wide come in a pattern. The thistles are worked in single long stitch in two shades of purple and rose. Price 10 cents. Blue.

THE SECOND CONCESSION OF DEER

By Wm. Wye Smith.

John Tompkins lived in a house of logs,
On the second concession of Deer;
The front was logs, all straight and sound—
The gable was logs, all tight and round;
The roof was logs, so firmly bound,
And the floor was logs, all down to the ground
The warmest house in Deer.

And John, to my mind, was a log himself,
On the second concession of Deer;
None of your birch, with bark of bluff,
Nor basswood weak and watery stuff;
But he was hickory, true and tough,
And only his outside bark was rough—
The finest old man in Deer!

But John had lived too long, it seemed,
On the second concession of Deer;
For his daughters took up the governing rein,
With a fine brick house on the old domain;
All papered and painted with satinwood stain,
Carpeted stairs, and best ingrain
The grandest house in Deer.

Poor John, it was sad to see him now,
On the second concession of Deer!
When he came in from his weary work,
To strip off his shoes like a heathen Turk—
Or out of the "company's" way to lurk,
And ply in the shanty his knife and fork—
The times were turned in Deer!

But John was hickory to the last,
On the second concession of Deer;
And out on the river-end of his lot
He laid up the logs in a cosy spot,
And self and wife took up with a cot,
And the great brick house might swim or not,
He was done with the pride of Deer!

But the great house would not go at all,
On the second concession of Deer;
'Twas "mother" no more, to wash or bake,
Nor "father" the gallants' steeds to take—
From the kitchen no more came pie nor cake,
And even their butter they'd first to make!—
There were lessons to learn in Deer!

And the lesson they learned a year or more,
On the second concession of Deer;
Then the girls got back the brave old pair,
And gave the mother her easy chair;
She told them how, and they did their share—
And John the honors once more did wear
Of his own domain in Deer!

Attractive Dresses for the Home

will please the ones you care for most, and brighten work itself. At the same time they will be practical, serviceable and not at all expensive if you make them of

"Steelclad" Galatea

(*Made in Canada*)

This is the cloth we make especially for house dresses and aprons—school dresses for the girls—waists and suits for the kiddies—nurses' uniforms—and such purposes where service is necessary, and attractiveness is a decided advantage

"Steelclad" Galatea has plenty of body, is perfect in weave and texture, and the colors are fast to sun and tub. It wears—and wears—and wears—till the purchaser feels that she has more than got her money's worth. It has well earned its reputation as "the most useful cloth around the house."

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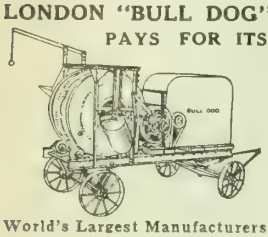

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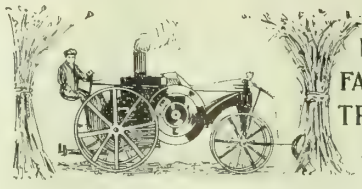
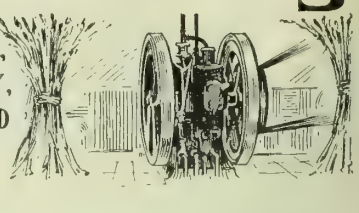
Farm Engineering



MOTORS, ENGINES, FARM MACHINERY, TROUBLE LOCATED AND REMEDIES SUGGESTED.



LIGHTING THE FARM HOME

THE question of lighting the home is one of great importance and is receiving much attention at present. The light giving good service with minimum cost, safety and efficiency is earnestly sought.

Many makes of lighting equipment varying from the kerosene oil lamp, kerosene oil vapor, acetylene, etc., to the individual electric lighting and power plant, are upon the market and are giving excellent satisfaction.

WHAT $5.00 TO $10.00 WILL DO

For this sum one or more very efficient oil or gasoline lamps may be purchased. A single lamp of this kind may be had for $3 that consumes one quart of oil in about sixteen hours. This lamp is the bracket type, may be easily carried from room to room and used where desired. A double hanging lamp of the same grade can be had for about $6 and consumes one and one-half quarts of oil in about twelve hours. By combining these two a very good, inexpensive system may be had.

EVERY FARMER A MACHINIST

The farmer who can look after his own machinery may well count himself lucky. But what of the farmer who has not the mechanical skill to look over his binder and his drills and plows and engines and hay forks and to put them in the condition that will enable each implement to do its best work? What of the farmer who finds all his time taken up with attending to stock and to preparing his seed and looking after the milling and the marketing of his products?

Fortunately such a farmer need not neglect his machinery, nor need he be at the mercy of high-priced mechanics. In nearly every neighborhood there is some one who has skill in this particular line and whose services may be secured for just such work at a reasonable price. A very little enquiry will reveal the needed person. Very often such a help may be found in some boy who has special mechanical skill. In many cases the local fence builder has spare hours for such work. In not a few instances this person is a retired and experienced farmer who will be glad to employ the winter hours in helping out his patrons in getting their machinery into good repair.

The season of 1917 promises to be more than usually strenuous on every farm in Canada. There will not be a single spare moment once the hour strikes for spring seeding. Never was the demand more imperious for production than it is now. Never, furthermore, was good farm labor harder to secure. Yet this demand promises to be more imperious still as the fall of 1917 approaches. Never was there demand for large production from every Canadian farm so much of a patriotic duty as it will be during the coming summer. In view of all this the present winter months must be utilized by every farmer in the way of making the last moment of preparation possible. During the busy hours of haying and harvesting of 1916 scores of farmers were held up through the breaking of hay forks or slings or cutting bars. In nearly every instance this interruption was due to the neglect of overhauling the implements during the leisure hours of the preceding winter. By the first of March the machinery on every Canadian farm should be in as good working order as pains and skill can make it. The observance of this precaution will help to spell out national success, and place dollars in the pocket of every farmer.—A. McT.

THE MOTOR CAR ON THE FARM

For the farmer who raises garden truck the motor vehicle has brought better prices; it has gotten his produce to market earlier and when it is fresh. The farmer does not have to start for market at 2 or 3 o'clock in the morning as does he who depends upon horses to cart his produce.

The farmer with a milk route has found the motor car indispensable. In the hot summer the milk can be delivered with rapidity, and the saving in not having the milk sour before delivery is sufficient to pay for gas and oil for a month, The farmer who owns an automobile cannot only save time and money, but on Sunday evening his family can be whirled through the country visiting distant farm friends. It will take the family to the church social, or if the farm is located on the outskirts of a city, the family can go to the theatre and return in good season. —A. B. D.

A PLOWING DEMONSTRATION

The plowing demonstration was made in a small field very typical of hundreds of acres in our country. They have been out of cultivation for years, waiting for some house-builder to come along. Idle and shiftless and lazy, these fields stand waiting for the "unearned increment" which society is expected finally to put into the owner's pocket. The single tax on land values or the farm tractor would put them at work, or at least make them pay for their board. The cultivated grasses have mostly disappeared. Coarse, wild grass has come in. There is a great tangle of blackberry vines, and little cedars and birches begin to appear.

These wild barbarians of the field hate a plow as a swamp mosquito hates a tile drain. These wild things know that plant to plant they can whip and destroy any of your so-called cultivated crops. For what are wheat and rye and timothy but old comrades that have been "civilized"? Does not civilization always take the "punch" out of the wild things and sub-

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DETROIT trained men get preference and get jobs quickly. No other city can give what Detroit offers. Think what it means to learn in the Michigan State Auto School. Factories endorse our school, glad to employ our graduates or offer them territory in which to sell cars and start garages. Unlimited opportunities. You're right in the middle of the greatest auto activities. Men are needed everywhere as testers, repair men, chauffeurs, garage men, and salesmen. Hundreds of our graduates start in business for themselves.

Earn $75 to $300 a Month

We teach you to handle any auto proposition. You graduate in from ten to twelve weeks. **Our equipment is complete.** Students actually build cars from start to finish, getting factory training in assembling, block-testing, road-testing, everything. Special complete course in Oxy-Acetylene brazing, welding and cutting, separate from regular course. All leading types of starting, lighting and ignition systems in operation. Learn to time motors, re-bore cylinders, adjust carburetors, magnetos, valves and bearings quickly and accurately. Six-cylinder Lozier and 8-cylinder King are used for road instruction. We have a new Chalmers "6-30" chassis with 3400-r.p.m. motor, the latest thing out, also a 1917 Detroiter-6, and an Overland. Just added Delco system as used in Buick, Hudson and Packard Twin "6." We have also installed a 1917 Willys-Knight complete chassis in the shop for students to work on.

Detroit Is The Place To Learn---Start Any Time

There are 44 auto factories in Detroit, and 140 accessory and parts factories. Our students have the privilege of going through any or all of them. We now operate **Westinghouse Auto-Lite and Bijur Service Stations.** After careful consideration the Westinghouse Electrical & Mfg. Company, the Auto-Lite Company, and the Bijur Co. decided that our school was the best place in Detroit to handle their service stations. This has added thousands of dollars' worth of equipment and makes our electrical department unequalled. Students get actual experience and training in handling all kinds of electrical auto equipment and taking care of trouble. We have just installed a Sprague Electric Dynamometer for block-testing purposes for students' use. Auto factories need Dynamometer men constantly. We have a greater demand, for our graduates than we can meet. Factories and garages are paying big salaries to men who **know** how to handle electrical equipment quickly and properly. Detroit is the automobile centre. You get practical instruction. Come to our school and learn the auto business right. School open all the year. Enter classes any time, any day. Three classes daily: morning, afternoon, evening.

There is a great demand for Michigan State Auto School students. Garages throughout the country write us for men. Auto factories write and phone for men constantly to fill permanent places. Why not fit yourself for one of these good paying positions?

MONEY-BACK GUARANTEE

We guarantee to qualify you in a short time for a position as chauffeur, repair man, tester, demonstrator, garage man, or automobile dealer, paying from $75 to $300 monthly or refund your money. We have constantly more requests for Michigan State Auto School Graduates than we can supply.

Follow the Crowd to the Michigan State Auto School. Come to Detroit.

THIS IS ONE OF THE 1916 CLASSES

Factory Co-Operation We have completed arrangements with the Auto factories to put them in touch with men who intend going into business for themselves. Think of getting inside information as to the best territory and where the garages will make the most money. The factories are looking for trained men to represent them. Men who know the auto business from A to Z are in biggest demand. Come here and start right—get the information first-handed and don't wait.

Act Quickly — Now — DON'T WAIT

Fill in the coupon and mail it now, get full particulars and "Auto School News" and New Catalog. They are both absolutely free. Or better still, jump on the train as hundreds have done, and come to Detroit, the "Heart of the Automobile Industry," and learn right.

Additional Building and Equipment 33,000 sq. ft. of additional floor space in our new building, thousands of dollars' worth of new equipment, plenty of room for students to work. This comes with our new building at 687-89-91 Woodward Avenue. Our school has grown by leaps and bounds; students come from all over the world. Men have left after graduating and started business for themselves; others have accepted good jobs both in Detroit and over the country. Their work has proven that we train them rightly. We are constantly adding new equipment. Our students get the best and latest things to work on. Our electrical department is thorough and complete. It is in charge of one of the most competent electrical instructors.

SEND THIS COUPON TODAY

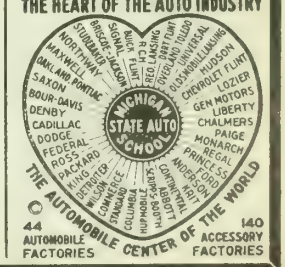
Michigan State Auto School,
962 Auto Bldg., 11-19 Selden Ave.,
687-89-91 Woodward Ave.,
Detroit, Michigan, U.S.A.
Gentlemen: Send me absolutely FREE "Auto School News" and New Catalog, or, better still, you can expect me about
.....
Name .....
Street .....
Town .....State.....

Remember, you can enter classes any time, any day. The price, of course, is based on giving full value. Therefore we cannot give another course free. Graduates in the complete auto course are competent to handle farm tractors. Act quickly—now. We have no branches. Write or come direct to this school.

Michigan State Auto School

The Old Reliable School. A. G. Zeller, President

962 Auto Bldg. 687-89-91 Woodward Ave. 11-19 Selden Ave.
DETROIT, MICHIGAN, U.S.A.



Sore Eyes **Granulated Eyelids,** Eyes inflamed by exposure to **Sun, Dust and Wind** quickly relieved by **Murine Eye Remedy.** No Smarting, just Eye Comfort. At Your Druggist's 50c per Bottle. **Murine Eye Salve** in Tubes 25c. For **Book of the Eye Free** ask Druggists or **Murine Eye Remedy Co., Chicago**

RAZOR BLADES **SHARPENED**

A Sharp Blade Makes Shaving a Joy. We sharpen Safety Blades and save you money. Satisfaction guaranteed. Gillette, 35c doz. Ever Ready and other single edge blades, 25c doz. Mail your dull blades to
The A. Keen Edge Co., 180 Bathurst St., Toronto, Can.

MAKE YOUR BIKE A MOTORCYCLE
at a small cost by using our Attachable outfit. FITS ANY BICYCLE. Easily attached. No special tools required. Write today for bargain list and free book describing the SHAW Bicycle Motor Attachment. Motorcycles, all makes, new and second-hand, $35 and up.
FREE BOOK
SHAW MANUFACTURING CO.
Dept. 125, Galesburg, Kansas, U.S.A

VARICOSE VEINS, BAD LEGS, ETC.
are promptly relieved with inexpensive home treatment. It absolutely removes the pain, swelling, tiredness and disease. Full particulars on receipt of stamp.
W. F. YOUNG, P.D.F.
482 Lymans Building Montreal, Canada

To the Wife of One Who Drinks

I have an important confidential message for you. It will come in a plain envelope. How to conquer the liquor habit in 3 days and make home happy. Wonderful, safe, lasting, reliable, inexpensive method, guaranteed. Write to Edward J. Woods, 7A, Station E, New York, N.Y. Show this to others.

MINARD'S "KING OF PAIN" LINIMENT

The old reliable remedy for rheumatism, neuralgia, sore throat and sprains.

Best Liniment Made

MR. A. E. LAUNDRY, EDMONTON, writes:—"I fell from a building and received what the doctor called a very bad sprained ankle, and told me I must not walk on it for three weeks. I got MINARD'S LINIMENT and in six days I was out to work again. I think it the best Liniment made."

Minard's Liniment always gives satisfaction. For any ache or pain. It gives instant relief.

Minard's Liniment Co., Limited
Yarmouth, - - N.S.

stitute "paunch" for it? The wild grass and the brier vines will whip any "civilized" plant that ever came down the highway of history if you make it a fair, open fight. It is another thing when the plow comes into the ring to second the grain or grass. That plow trips up the wild things and throws them down. Then lime mounts them with its stinging lash, and the wild grass and briers pass into slavery—giving up their very bodies to nourish these "civilized" crops which are backed up by man. But before they die they pass on a solemn command to their children to bide their time, and when man gets weary come back and destroy these pampered usurpers. So the seeds lie dormant in the soil until the boys go to the city or the farmer gets rich or weary. Then back come the strong wild things to possess the land. If people would only read history they would know that this same thing is worked out again and again in politics and society.

TO FIND TONS HAY IN MOW

To find the number of tons of hay in a mow, multiply length by depth by breadth in feet and divide by 450. In case of straw, divide by from 600 to 1,000, according to the length of time in mow. The longer the time in mow, the smaller the divisor to be used.

Hay in stacks is usually not quite so solid as in mows, hence 500 should be used as a divisor than 450. These divisors apply to Eastern Canada. In Western Canada, wild hay being heavier, a smaller divisor should be used, say from 350 to 400.

WEIGHT OF GRAIN IN BIN

Ascertain cubical contents of bin, and weight of one bushel (32 quarts) of the particular kind of grain.

As 1 cubic ft. measures 25 quarts (nearly), the weight of 1 cubic ft. will be 25-32nds. of the weight of 1 bushel.

Example.—1 bushel oats weighs 34 pounds. 1 cubic ft. of oats equals 25-32nds of 34 pounds, or 26½ pounds.

HOW TO DETERMINE THE APPROXIMATE DRAWBAR PULL OF A TRACTOR

To find the approximate drawbar pull of a tractor travelling 2 miles per hour, multiply the rated drawbar power by 180 lbs. For instance, a tractor rated at 8 h.p.p at the drawbar (at a 2-mile speed) must have a pull of at least 1,440 lbs. to make good on its rating. This should be a conservative estimate of its pull.

TO FIND THE NUMBER OF BOTTOMS WHICH CAN BE PULLED

To figure the number of bottoms which can be pulled, divide the drawbar pull by the cross section of one furrow, multiplied by the draft per square inch of cross section of the furrow.

An 8-16 h,p, tractor to be used on the basis explained above must have a pull of at least 8 x 180 or 1,440 lbs. to make good its rating. Plowing is to be done in clover sod, 6 inches deep, and the pressure per square inch on the plow is 7 lbs., according to the figures given. Thus, the cross section and depth of plowing (16 x 6) multiplied by 7 (draft per square inch) equals 588 lbs. 1,440 lbs. divided by 588 lbs. equals 2.4. Thus, we can safely estimate on two bottoms.

FORMULA FOR WHITEWASH

Take half a bushel of unslacked lime; slack it with boiling water and cover during the process to keep in the steam; strain the liquid through a fine sieve or strainer; add a peck of salt previously well dissolved in warm water, 3 pounds of ground rice boiled to a thin paste, stir in boiling hot one-half pound of powdered Spanish whiting, and one pound of glue which has been previously dissolved over a slow fire, and add 5 gallons hot water to the mixture; stir well and let it stand for a few days, covered up from the dirt. It should be put on hot. One pint of mixture will cover a square yard properly applied. Small brushes are best. There is nothing that can compare with it for outside or inside work, and it retains its brilliancy for years. Coloring matter may be put in and made of any shade, as Spanish brown, yellow ochre or common clay.

DRAFT PER SQUARE INCH OF CROSS SECTION OF FURROW

	Pounds per square inch
In sandy soil	2 to 3
In corn stubble	3
In wheat stubble	4
In blue grass sod	6
In June grass sod	6
In clover sod	7
In clay soil	8
In prairie sod	15
In virgin sod	15
In gumbo	20

Supose a plow rig has two 14-inch bottoms, and the depth to be plowed is 6 inches. A cross section of each plow is, therefore, 14 x 6 inches, or 84 square inches. Twice this for two bottoms is 168 square inches. Since, in sandy soil, the pressure per square inch is three pounds:

Then 168 x 3 lbs. = 504 lbs.—draft in sandy soil. Likewise 168 x 7 lbs. = 1,176 lbs.—draft in clover sod. Likewise 168 x 8 lbs. = 1,344 lbs.—draft in clay sod.

A SHORT COURSE IN ENGINES

A short course of instruction on internal combustion engines will be held under the direction of the Department of Agriculture, University of Saskatchewan, February 5 to 17, 1917. It is expected that each student during the two weeks' course will reach an understanding of the practical care and operation of both stationary and traction engines.

The course will cover principles of the internal combustion engine, the two and four cycle engines, the conditions of compression and expansion, parts of the engine and their functions, cooling systems, fuels, the carburetor and its functions; lubrication, care and handling of the engine and similar topics.

IN THE VERNACULAR

"You advertised as chauffeurette-maid?"

"Yes, madam."

"What were your duties at your last place?"

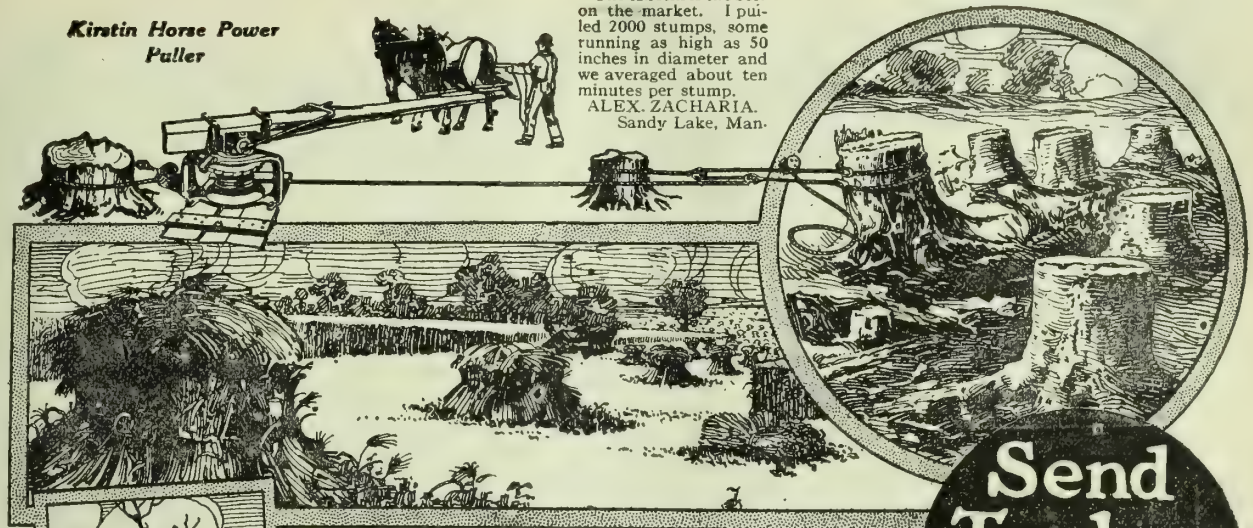
"I drove and cleaned the cars single-handed."

"And as maid?"

"I took down my lady at night and assembled her in the morning, madam."

Kirstin Horse Power Puller

The Kirstin is the best on the market. I pulled 2000 stumps, some running as high as 50 inches in diameter and we averaged about ten minutes per stump.
ALEX. ZACHARIA.
Sandy Lake, Man.



80 stumps in 100 minutes. Record made by Kirstin Horse Power Puller under official test at the Land Clearing Demonstration of the University of Wisconsin.

Yank Out Those Stumps!

A Guaranteed Saving of from 10% to 50% in Clearing Land Ready for the Plow.

Send To-day For This Book

The rich crop pictured above, is growing on what was a tax-eating stump field. The owner got it ready for the plow the Quickest, Cheapest and Best Way—with the Kirstin Method.

Thousands of Canadian farmers have increased the productive value of their land a hundred-fold by clearing the Kirstin way. You do the same. Stop paying taxes on worthless stump fields; make them earn money for you—get a

Guaranteed for 15 Years

Kirstin Stump Puller

One Man — Horse Power

A Money Back Bond

No deeply imbedded tap-root is too big for the Kirstin Horse Power Puller. Its mighty strength is irresistible because of its triple power and other exclusive Kirstin features. It will clear more than two acres at one setting without strain to man, horse or machine. For 21 years it has proved its invincibility on Southern stump fields.

One man without horses can pull the biggest stumps, too, with the Kirstin One Man Stump Puller. A little push on the handle gives tons of pull on the stump. This enormous power is developed by use of double leverage. It gives an ordinary 17-year-old farm boy a giant's power.

There is a machine for every need, from the smallest land clearing job to the biggest. Every customer is given a **Guarantee Bond** that The Kirstin Method will clear your land and make it ready for the plow at a cost from **10% to 50% cheaper than any other.** Every Kirstin Puller is **guaranteed** against breakage **for 15 years.** Every puller is sent on **10 days' trial and money refunded** if our guarantee does not deliver the goods.

1616

Send for Free Book **"The Gold in Your Stump Land."** Write today. You be the judge, read the letters from farmers who have bought Kirstins and are glad they did. Look at the photographs of the immense stumps and trees they have pulled; of the houses, barns and bridges they have moved. Learn how, after clearing your land, you can make money by renting your Kirstin to your neighbors. Learn about Kirstin Service, forever free to all Kirstin Owners. Read the interesting information on all kinds of land clearing. Don't buy a puller until you read this book.

A. J. Kirstin
Canadian Co.
5425 Dennis St., Sault Ste. Marie, Ontario

Big Money to those who Order Early

We offer you a special opportunity to join in our Profit Sharing Plan. No canvassing. Just a willingness to show your Kirstin to your neighbors. Don't wait—send the coupon today. Be the first to share in this big money making plan.

The Kirstin does great work and I am greatly pleased with it.
Arthur A. J. Collis,
Box 73,
Creston, B.C.

A. J. Kirstin Canadian Company

5425 Dennis St., Sault Ste. Marie, Ontario

Largest Stump Puller Manufacturers in the World

Kirstin One Man Puller

Send me a free copy of "The Gold in Your Stump Land" and full particulars of

The Kirstin Method.
The Money Back Bond.
The 15 Year Guarantee.
The Profit Sharing Plan.

Name.....

Address.....

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Sending this coupon obligates you in no way.

A PAYING INVESTMENT FOR WINTER MONTHS

It costs you nothing to consult us as to the advantages of having a Greenhouse on the Farm. Write Dept. M., stating your requirements and we will gladly furnish you with costs, etc. All information **FREE.**

Glass Garden Builders Limited
Kent Building - Toronto
Transportation Building, Montreal
Factory: Georgetown, Ont.

IT STANDS ALONE

PINE TREE BRAND
TIMOTHY
SEED

PURITY
No. 1 GRADE AND BETTER

IF YOUR DEALER CANNOT SUPPLY YOU WRITE

The Albert Dickinson Co.
SEED MERCHANTS
CHICAGO, U.S.A. Est. 1855

Perry's Alpines and Perennial Seeds have a universal reputation. Unique collection containing many new varieties unobtainable from any other source.

Perennial, hardy, and adapted for Canadian climate

Horticulture and Gardening

QUANTITY AND WEIGHT OF SEED TO THE ACRE

	Pounds	Bushels
Alfalfa	16— 20	.....
Alsike	3— 5	.....
Barley, six-rowed	96 - 120	2 — 2½
Barley, two-rowed	120— 144	2½— 3
Buckwheat	40	.....
Corn, in hills 3 ft. apart	20 30	.....
Corn, in rows 3½ ft. apart	25— 40	.....
Flax for fibre	70 - 80	.....
Flax for seed	30— 40	.....
Hungarian Grass	40	.....
Mangels, Sugar Beets	8 10	.....
Millet	30	.....
Oats (larger oat kernels more seed)	80 120	2½ 3½
Peas (larger the pea more seed)	120 240	2 — 4
Potatoes	720 -1200	12 20
Rape	4 5	.....
Red Clover	8— 10	.....
Rye	44	¾
Timothy	6— 12	.....
Turnips	4— 6	.....
Vetches	60 90	1 1½
Wheat (Spring)	90	1½
Wheat (Winter)	75	1¼
Wheat (Winter for Western Canada)	45	¾

PROFITS IN IROQUOIS ORCHARDS

R. G. Duncan, of Port Hope, contends that in many cases trees have been butchered rather than pruned, and as a result of neglect of spraying trees are dying of scale and bark louse. The orchards, if not too far gone, could be made the most profitable part of the farm in proportion to area. This was proved by Mr. Duncan's work with two neglected orchards, one in Durham county and one in Northumberland. He secured control of these for three years, and in these years the net profits on the Durham county orchard ran from $94.11 to $284.02 per acre. The net profits on the Northumberland orchard were $108.63 to $215.18 per acre. These profits were recorded after allowing for a cost of production running from $57.83 to $90.30 per acre.

WHERE FERTILIZERS PAY

Prof. Zavitz, at the recent convention of the Experimental Union at Guelph, gave the results of experiments with fertilizers on potatoes, oats and barley. Taking the average of five years, commercial fertilizers increased the yield of potatoes from 122 to 141 and 162 bushels per acre. With twenty tons of cow manure, however, an average return of 166.6 bushels per acre was secured. In barley the yield was increased from 36.2 bushels per acre where no fertilizer was used from 41.7 to 55.2 where commercial fertilizer was used. With the help of twenty tons of cow manure an average of 59.8 bushels was secured.

GIRLS' AND BOYS' GARDENING AND CANNING CONTEST

By H. L. Seymour.

In the Eastern Counties of Ontario the problems of keep-the-boy-on-the-farm, and production-and-yet-more-production have called into existence a movement which should be more widely known.

Like all others who have faced these problems, those who have promoted the new movement have been forced to realize that the solution must be looked for along one line—the education of the young. Train the farm boy in his own business so that he will find himself, not a mere laboring drudge, but a professional farmer, and he will see in his calling a means of realizing his ambitions. Teach the farm girl that she has the means of doing on the farm finer, more varied, more interesting and more widely helpful work than another woman and she will not be so easily attracted by the mere glitter of city life.

Another thing that these promoters have realized is that emulation, competition, is a great stimulant to learning. The example of the Corn Clubs of the United States Corn Belt has demonstrated this.

The result of this thinking has been the establishment of two yearly competitions—or perhaps they should be counted as three—for the farm boys and girls. The thing began five seasons ago with a contest in potato growing among the farm boys of Carleton County. The following year a similar contest was established for the farm boys of the adjoining County of Russell. It took a lot of time to work out the plans for a contest among girls, though the money for expenses was available and competitors willing to enter. So, it was not until last season that the Home Gardening and Canning Competition for Girls was inaugurated.

It is easy to think out plans for these good works; the difficulties in the way in most places are two-fold—first, to find the money for expenses, and, second, to find people willing to undertake the work.

But these difficulties were the first to be overcome in the case of Carleton and Russell. They have an enthusiastic amateur gardener in Ottawa who is known throughout America, Mr. R. B. Whyte, a retired wholesale merchant. Mr. Whyte originated the idea and found the men to carry out the plans, and he has also assumed the whole financial burden. Money for prizes, for printing, for general expenses, is freely provided by this most wise of hobbyists because he believes that if our farming and gardening are improved many other problems will thereby be solved.

Three men joined Mr. Whyte in this effort. Mr. L. H. Newman, known to farmers throughout Canada as Secretary

SPRAY for CLEAN FRUIT

WITH

THE I.X.L. JUNIOR POWER SPRAYER

The Names of Satisfied Customers are the Best Guarantee That Our Sprayer is All We Claim for It.

A. J. Finch, Penticton, B.C.
G. C. Renfrew, Kelowna, B.C.
Corporation of Morden, Man.
C. H. Schell, Rutland, B.C.
Co-operative Fruit Co., Penticton, B.C.
A. J. Mercer, Toronto, Ont.
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Jas. Ionson, Scarboro Jct., Ont.
G. K. Benson, Cobourg, Ont.
Jas. Harcourt, Port Hope, Ont.
Fred Purdy, Trenton, Ont.
W. J. Crews, Trenton, Ont.
Frank Dempsey, Carrying Place, Ont.
Lorne Brickman, Rednersville, Ont.
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Jas. Kenney, Hemmingford, Que.
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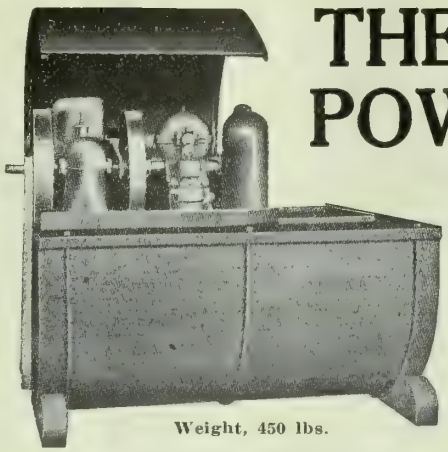
J. W. Burgess, Sheffield Mills, N.S.
Geo. Weese, Albury, Ont.
Port Elgin Fruit Co., Port Elgin, Ont.
F. W. Hamlick, Goderich, Ont.
Stocks & Jackson, Creston, B.C.
Birchbrook Orchards, Birchbank, B.C.
Co-Operative Fruit Co., Wyndell, B.C
Appleton Bros., Proctor, B.C.
W. A. Fraser, Trenton, Ont.
John Little, Trenton, Ont.
Dominion Canners, St. Davids, Ont.
60 machines in the Niagara District.
500 machines in Canada.



Weight, 450 lbs.

THE I.X.L. POWER SPRAYER.

The I.X.L. is made in three size tanks, engine and pump mounted on top. Has three h.p. motor, gear driven, vertical cylinder pump, cypress tank, 50 ft. hose, two poles and nozzles, complete, ready for use. Weight, 450 lbs

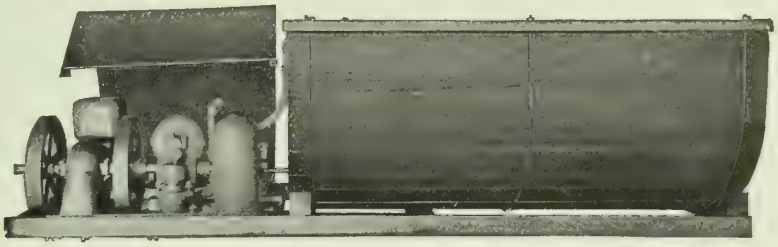
EACH machine will handle 2 lines of hose at 250 lbs. pressure, deliver 6½ gals. of mixture a minute, and easily apply from 1,200 to 1,500 gals of mixture a day.

Engine can be instantly released for other POWER PURPOSES, such as pumping water, sawing wood, etc

Engine parts interchangeable with "Ford" motor parts. Therefore STANDARD.

OR

PONTIAC SPECIAL POWER SPRAYER



Weight, 650 lbs.

The Pontiac Special is made in 2 size tanks, 150 and 200 gal.

Engine, and Pump mounted at end, on angle steel frame.

Outfit can be used on any wagon or truck.

The machine is equipped with the same Engine and Pump as the I.X.L., as well as equipment.

Here is What Two of Our Users Say :

The one horse sprayer that I used, with one line of hose, did our 40 acres of nine-year-old trees in three days, which formerly took from ten to twelve days. We used three and a half gallons gasoline, and one pint Engine Oil. The pressure was continually at 225 lbs., and did not vary more than five pounds at any time.

(Sgd.) A. J. FINCH, Penticton, B.C.

We have sprayed our orchard of 11,000 trees with our Sprayer, purchased from you, and have never had to stop five minutes on account of machine. We recommend it for orchardmen

(Sgd.) BIRCHBROOK ORCHARDS, LTD.
LTD. Birchbank, B.C.

The Canadian Sprayer Co.

TRENTON, ONTARIO

CANADIAN SPRAYER COMPANY, TRENTON, ONTARIO.
Dear Sirs:
Kindly send me your free book.
Name .....
P. O. .....
Number of trees in orchard .....

STAG

CHEWING TOBACCO

"Ever-lasting-ly Good"

Stands Supreme

above all other chewing tobaccos and was brought to perfection only after years of careful test and study

Sold Everywhere

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A Plug

of the Canadian Seed Growers' Association, and to scientists throughout the world as an authority on plant biology, has taken up the work of secretary, and has some most valuable records of work done by the boys. W. D. Jackson, representative of the Department of Agriculture for Carleton, has visited the plots, encouraging and guiding the competitors. Mr. W. T. Macoun, Dominion Horticulturist, has written a bulletin, giving in simple terms the best advice for potato growing in the eastern counties, and naturally the distribution of this bulletin has been helpful to others as well as to those entering the contest. As the plan is educational in its nature, and as it has been linked up with the public school system, the inspectors for Carleton, Mr. T. Jamieson, and Mr. W. Froats, have been added to the committee, under Mr. Whyte's chairmanship.

The competitions are thoroughly practical. In the potato-growing contest there is a maximum of 400 marks, being 100 points for each of the four following: Field practice, yield, quality as demonstrated by a measured bushel of the product exhibited at the county fair, and written report on the year's operations. The successful competitor must acquit himself well in every part of the practical work and also he must be sufficiently scientific in his methods and thinking to be able to explain what he has done.

In the five seasons of this competition it has been demonstrated that it pays to grow potatoes in Carleton and Russell. In a good season crops running as high as 63 bushels of marketable tubers for the tenth-of-an-acre plot, or at the rate of 630 bushels to the acre. And even in the season just closed, probably the worst season for potato growing in Eastern Ontario of which any record has been kept, the first prize winner in Russel produced a crop at the rate of 420 bushels to the acre. And the average for the Province this year was about 61 bushels to the acre.

A feature of the contest, but one not counted in prize-winning marks, is the cost of production. Each competitor is charged all the expenses of his work, and some spend at the rate of over $100 an acre. The crop is allowed for at 60 cents a bushel. This figure was taken as a fair average and is used year after year so that a basis of comparison for different seasons may be afforded. On this basis potatoes have been produced by these boys at a cost of less than ten cents a bushel, the average being somewhere about thirty cents. Profits have been realized running at as high a rate as $300 an acre. And, by the same token, one of the fine features of this contest is that many of the boys, though the season has been against them and their expenses have run them into actual loss, pluckily go on with the competition and come through at the finish—badly beaten but not discouraged.

The girls' competition is much more complex than that of the boys. For this reason and because it has got into full swing only this year, it is not possible to speak as yet of its results. Like the boys, the girls are called upon to make a display of products at the county fair and to write a report or essay upon the operations of the year. This autumn the display made in connection with this competion was one of the great attractions of the Carleton County Fair.

LEGAL WEIGHTS OF PRODUCE IN CANADA

	Pounds per bush.
Artichokes	56
Barley	48
Beans (Castor)	40
Beans (White)	60
Beets	50
Blue Grass Seed	14
Buckwheat	48
Carrots	50
Clover Seed	60
Corn, in the ear	70
Corn, shelled	56
Flax Seed	56
Hemp Seed	44
Hungarian Grass	50
Lime	70
Millet Seed	50
Oats	34
Onions	50
Parsnips	45
Peas	60
Potatoes	60
Rye	56
Timothy Seed	48
Turnips	50
Wheat	60

	Pounds per bag.
Artichokes	84
Beets	75
Carrots	75
Onions	75
Parsnips	65
Potatoes	90
Turnips	75

	Pounds per bbl.
Flour	196
Meal	196
Rolled Oats	180
Rolled Wheat	100

POTATO SEED BALLS

I notice on page 57 of the December issue, an article on potato seed balls. Now, I know well from experience that the seed balls we often get from our vines by planting seed from them that we can never get a new potato that can be depended upon. They grow a great deal to vines and are very lengthy. If there should be any potatoes from this seed plant they generally degenerate in the second planting. It takes three plantings from the seed before we get developed potatoes and then they are about the size of beans, first from the seed; second about the size of a small hen's egg; and the third year they can be used as developed potatoes. I would say that Mr. A. J. W. will never get a new potato that will ever amount to anything from the seed balls he has because that is the way that the new potato originated, by planting the seeds from the balls, and there is only one way to do it. I planted some seed last spring from the balls and I am having great success so far, and if they continue to improve the next two plantings as they have done this year, I expect to have something fine in the way of a new potato. The reader may say that "if you can grow the seed why cannot I do the same?" The reason is that the seed has to be pure and hybridized. This is done in the following way: Select two of the very best varieties of potatoes that you can find. Cut a set out of each and be sure that there is only one eye in each set. Cut both pieces through the centre of the eye and graft them together; plant them together and if you have seed balls from such plantings, you can depend on such seeds for growing a new potato. I hope this will throw some new light on Ontario potato balls.—J. A. Smith.

RENNIE'S

NEW SEEDS --- SECURE NOW

XXX Earliest Tomato (vines loaded early) - Pkg. 10c, oz. 50c
Beefsteak Tomato (enormous size) - Pkg. 10c, oz. 60c, 4 oz. $2
Sparkler Radish (round red white tip) Pkg. 5c, oz. 15c, 4 oz. 40c
First and Best Cabbage - - Pkg. 10c, oz. 30c, 4 ozs. 90c
Glory Enkhuizen Cabbage - Pkg. 5c, oz. 30c, 4 ozs. $1.00
Prolific Golden Wax Butter Beans - - 4 ozs. 15c, lb. 50c
XXX Solid Head Lettuce - Pkg. 10c, oz. 25c, 4 ozs. 75c
Giant Prizetaker Onion (blackseed) Pkg. 10c, oz. 25c, lb. $2.10
Extra Early Red Onion, Pkg. 5c, oz. 25c, 4 ozs. 65c, lb. $2.10
Early Eclipse Beet (round blood) - Pkg. 5c, oz. 15c, 4 ozs. 40c
Cardinal Globe Beet, - Pkg. 10c, oz. 20c, 4 ozs. 50c, lb. 1.50
Spinach Beet (for greens) - Pkg. 10c, oz. 30c, 4 ozs. 90c
Chantenay Carrot (for table use) Pkg. 5c, oz. 25c, 4 ozs. 65c
Snowball Cauliflower (gilt edge) Pkg. 15c, 25c, 85c, oz. $2.75
Paris Golden Celery (very best) Pkg. 15c, ¼ oz. 60c, oz. $2.00
Early Premium Gem Peas (dwarf) 4 oz. 10c, lb. 35c, 5 lb. $1.50
Select Yellow Onion Setts - - - lb. 35c, 5 lbs. $1.70
London Long Green Cucumber - Pkg. 5c, oz. 15c, 4 ozs. 40c
Extra Early White Cory Corn (for table) Pkg. 10c, lb. 35c, 5 lbs. $1.50.
Early Branching Asters, White, Pink, Crimson or Mixed, Pkg. 10c
Choice Spencer Sweet Peas (mixed colors) Pkg. 10c, oz. 30c, 4 ozs. 90c.

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Investments and Insurance

For the Farmer

FARMER'S COMPANIES AMALGAMATE

By G. F. CHIPMAN, *Editor Grain Growers' Guide.*

THE PROPOSED amalgamation of Farmers' Companies in Western Canada affects only two of the three large companies. The amalgamating companies are the Grain Growers' Grain Company, head office, Winnipeg, and the Alberta Farmers' Co-operative Company, head office, Calgary. For a year or more past there has been considerable discussion by the organized farmers at their conventions and conferences over the question of federating or amalgamating all three farmers' companies. After the discussion it was not found possible to proceed with any proposition involving all three companies. The Alberta Farmers' Elevator Company, therefore, proposed to the Grain Growers' Grain Company that the two be amalgamated under the new name of the United Grain Growers' Ltd. The question was brought before the Annual Shareholders' Meeting of both companies and was endorsed unanimously by the Alberta meeting and with but half a dozen dissenting votes out of 600 shareholders present at the Grain Growers' Grain Company's Annual Meeting. The Grain Growers' Grain Company at the present time has 18,000 shareholders and has just completed ten years of operation. During the past year it has handled over 38,000,000 bushels of grain as well as marketing over 10,000,000 bushels collected by the Alberta Farmers' Co-operative Elevator Company. The profits on the year's business were $571,000. The paid-up capital of the company is just over $1,000,000, and it has an accumulated reserve of $600,000, putting it in a very strong financial position. The Company operates all the Government elevators in Manitoba to the number of 176 as well as 14 elevators which it has constructed recently. In addition the company operates under lease one of the big C.P.R. terminal elevators at Fort William and has just completed a $300,000 hospital elevator at Port Arthur. The Co-operative Supply Department of the company which handles all kinds of farm machinery and commodities used on the farm did a business last year of over $1,000,000. Six months ago the company opened a Live Stock Commission Department in the Stock Yards of Winnipeg and is handling a very considerable portion of the live stock now passing through Winnipeg.

Another enterprise in which the company is interested is a 300,000,000 foot timber limit on the G.T.P. in British Columbia, a flour and feed business at New Westminster, B.C.

The Grain Growers' Export Company, a subsidiary company, has become one of the largest export companies on the continent and earned a profit last year of approximately $320,000. The Grain Growers' Grain Company with its subsidiaries paid in corporation war taxes during the past year $360,000.

The Alberta Farmers' Co-operative Elevator Company has been in existence for three years and is now operating 103 of the latest model and most up-to-date elevators in that province and has 12,000 farmer shareholders. It handled over 10,000,000 bushels of grain during the past year and made a profit of $282,000, out of which it paid $60,000 in war taxes. This company also handles a large volume of farm supplies, its turn-over in the past year amounting to over 1,000 carloads. The Live Stock Department of the Company is now one of the largest factors in the live stock trade in Alberta and in the past three months has handled over $305,000 worth of cattle and hogs which are sold on commission. The paid-up capital of the company is $300,000 and the subscribed capital $900,000.

Under the proposed amalgamation the Grain Growers' Grain Company will be reorganized into units similar to the Alberta Company and the annual meeting will be attended by delegates elected by each unit. The capital stock of the new company will be $5,000,000. The aim of the two companies in amalgamating is to provide improved service to the farmers in the field in which they operate. Managerial and operating expenses will both be very materially reduced. This is one of the amalgamations which has none of the objectionable features of a combine, as it will bring every benefit secured directly within reach of the farmer. The aim is to help the farmers market their produce at the very lowest cost, and also to reduce the cost of a considerable portion of the supplies which they require on the farm.

QUESTIONS

SILVERTON MINES, LTD.

J.W., Alberta.—Can you give me any information about the operators and standing of the Silverton Mines, Limited, of Silverton, B.C.? Are they producing at the present time? Some of my friends in the Old Country are heavily interested in the securities of this company. Originally they took shares in the Silver Life Mining & Power Co., a Washington incorporation, which proposed to acquire the Lakeside property in the Cascade Mountains. Pending the construction of a railway to their Lakeside property they decided to acquire a portion of an issue of preference shares in the Silverton Mines, Limited, an English corporation, with offices in Gracechurch Street, London.

Answer.—The Silverton Mines, Ltd., own what is known in mining circles as the Hewitt-Lorna Doone group of claims in the Silverton district. The property appears to be well thought of by mining men operating in that district. The mines are producing regularly, and inquiries are now being made as to the financial position of the company. There is a concentrator on the property and ultimate

success appears to depend upon the success of the process of treating the ores. Zinc is the principal product, but the ore also carries a small percentage of silver. Fuller information can be secured by writing to M. S. Davis, the manager, at Silverton. The FARMER'S MAGAZINE is informed on reliable authority that Mr. Davis has invested $40,000 or $50,000 of his own money in the property.

ABOUT FOREIGN WAR LOANS.

J.O.R., Ontario.—I would like your opinion of the 5½ per cent. Russian bonds, due 1926. In what class do they belong? Are they an investment or a speculation?

Answer.—These bonds represent one of the internal war loans of the Imperial Russian Government. As such and as distinguished from the securities representing the external loans that have been negotiated by the Russian Government, they are, in our judgment, not entitled to be rated as strictly conservative investments. There is a moral obligation to Canadians to buy Dominion of Canada war bonds, British war loan and the French loans. They pay equally as good interest and are safe.

INVESTING A WOMAN'S MONEY.

A.B.O., Manitoba.—I am a reader of your magazine and note your help in the investment advice given. I have some money left me and I am depending upon it and know nothing of investments outside of farm mortgages. At present I have some money to invest and there has been brought to my notice a cold storage joint stock company in Ontario, offering 6% on preferred stock. Would you advise me to take 10 shares?

Answer.—No. You cannot afford to risk your thousand. Buy war bonds, municipal debentures, or mortgage debentures yielding 5 per cent. or a little better. You would have little trouble collecting and be perfectly safe.

AUTOMOBILE SECURITIES.

I.A.L., Sask.—Can you give me the increase in the price of the leading automobile securities I would like some facts about the General Motors.

Answer.—Apparently there has been no limit to what these stocks might pay or to the level to which they might go in price. There are many whose gains have been phenomenal. Stocks that prior to 1914 represented nothing but good will and on which earnings in the far future were conjectural began to show returns on capital of 10 to 20 and then to 30 and 50 per cent. The obvious things about which people talk are the $60,000,000 profit of the Ford company in the year to June 30, 1916, on a capital of only $2,000,000. This is exactly 3,000 per cent.

Others of interest are shown in the following table.

	Price. 1916	Price. 1914	% inc.
General Motors	$790	$25	3060
Willys-Overland	325	50	550
Studebaker	195	20	875
Maxwell	99	3	3200

It is thus that the promoter gets such a background for all his rosy flotations.

DOES A FARMER NEED INSURANCE?

J.A.T., Ontario.—I have just bought a farm, 100 acres, for $50 an acre, on which I paid $2,000 cash and borrowed the $3,000 at 6% for five years. I have $1,000 in cash and marketable stock. Would you advise me to take out a $2,000 20-year pay life insurance in the ——— company? I am married and have two children, and am 27 years of age.

Answer.—If you wish you can certainly pay off this mortgage easily. But if you should die in two or three years your family would be left in a very unprotected way. I would certainly take out a policy such as you say. The premium payments half yearly will not be heavy and they will be all paid by the time you are in middle life. As to the company you mention, I may say that I am partial to Canadian companies. There are several very good ones.

HYDRO-ELECTRIC RADIATION.

A.C.S., Ontario.—Provided it is not too personal or too public, could you please tell me through your next issue of FARMER'S MAGA-

Your Money—
How to Make It Earn

To invest his savings where they will be absolutely safe, accessible, and earn their right rate of interest, is the desire of every investor.

Time saved is money earned. Nothing shows this so clearly as the fact that—

$100 invested at 5% doubles itself in 14 years.

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At the end of twenty years the Insurance will be paid for, and a paid-up Policy will be issued for $1,000. The profits earned under the Policy will then be payable, unless, as may be chosen if desired, these profits have been paid at the end of each five-year period.

During the twenty years the Policy carries liberal loan values; and at the end of the period, if the Policyholder so desires, the contract may be surrendered, and the total Cash Value obtained, showing an excellent return on the outlay—while the twenty years' protection will have cost nothing.

Personal rates and full details will be furnished on request.

THE GREAT-WEST LIFE ASSURANCE CO.
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THOSE WHO, FROM TIME TO TIME, HAVE FUNDS REQUIRING INVESTMENT MAY PURCHASE AT PAR

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IN SUMS OF **$500** OR ANY MULTIPLE THEREOF.

Principal repayable 1st October, 1919.

Interest payable half-yearly, 1st April and 1st October by cheque (free of exchange at any chartered Bank in Canada) at the rate of five per cent per annum from the date of purchase.

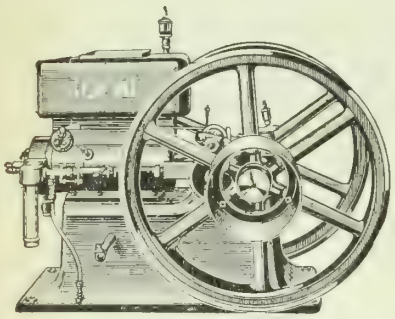
Holders of this stock will have the privilege of surrendering at par and accrued interest, as the equivalent of cash, in payment of any allotment made under any future war loan issue in Canada other than an issue of Treasury Bills or other like short date security.

Proceeds of this stock are for war purposes only.

A commission of one-quarter of one per cent will be allowed to recognized bond and stock brokers on allotments made in respect of applications for this stock which bear their stamp.

For application forms apply to the Deputy Minister of Finance, Ottawa.

DEPARTMENT OF FINANCE, OTTAWA,
OCTOBER 7th, 1916.



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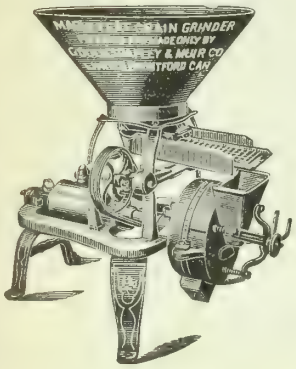

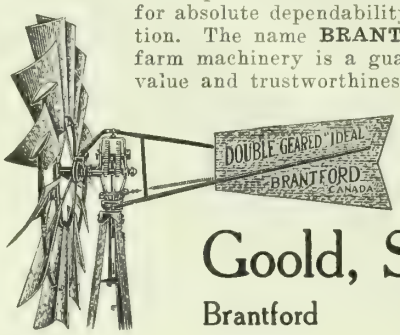

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ZINE *if it is a good investment to buy a few capital shares of the Hydro-Electric Radiation, Limited, of Toronto, Ont. What amount of preferred stock have they, if any? What is the difference, if any, between preferred capital or treasury stock?*

Answer.—The Hydro-Electric Radiation Co. was incorporated in April, 1915, and owing to the war and the difficulty in getting the right metal for the wiring, it is only now that the manufacture of the radiators is getting along. The company reports a big bunch of orders on hand and if their principle works out, they will have a big future, as the invention will cut out all the dirt and trouble of coal and ashes in house heating. The firm is capitalized at $500,000, all common stock. The value of this as an investment depends entirely upon the price of the shares and the success of the enterprise as a commercial proposition in the future.

INSURANCE

FIRE INSURANCE MUTUALS.

The gross amount of the risks held in Ontario by purely Mutal Fire Insurance Companies at the end of 1915 was $327,364,731. Of this the Waterloo North, Waterloo Mutual, Sydenham, Perth, Peel Co., Howick Farmers, Farmers' Central, Farmers' Union, and the Lambton Farmers are among the largest. The biggest volume of new business was done by the Sydenham. The total losses by fire were $416,553.

DON'T PASS IT BY.

As a means of amassing an estate sufficient to one's needs, life insurance is far more available than most aspiring young men are aware, and stands more in the line of a duty than a privilege when viewed in the light of present social and economic conditions, says the *Insurance Press* of New York.

Every one's life is largely of his own ordering, and no one having the means can afford to "pass up" life insurance lightly and flippantly. Some day it will be no jest, but a mighty serious matter. It should be so regarded to-day.

MOST MEN DIE POOR.

The records of the Surrogate's Office of New York County, covering a period of five years, showed that the average number of deaths among adults for those years was 27,011. Of these—

23,051, or 85.3 per cent. left no estate at all.
1,171, or 4.3 per cent., left estates valued at $300 to $1,000.
1,428, or 5.3 per cent., left estates of more than $1,000, but less than $5,000.
475, or 1.8 per cent., left estates of more than $5,000, but less than $10,000.
490, or 1.8 per cent., left estates of more than $10,000, but less than $25,000.

AND ONLY

396, or 1.5 per cent., out of this entire number (27,011) left estates valued at $25,000 or more.

A similar investigation of the records of the probate courts of Allegheny County, Pennsylvania, which includes Pittsburgh, revealed the following:

"The average number of adults who died annually during a six year period was 5,164. Of these—

4,599, or 89 per cent., left no estate at all.
173, or 3.3 per cent., left estates valued at $300 to $1,000.
230, or 4.5 per cent., left estates of more than $1,000, but less than $5,000.
75, or 1.5 per cent., left estates of more than $5,000, but less than $10,000.

AND ONLY

87, or 1.7 per cent., out of this entire number (5,164) left estates valued at $10,000 or more.

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Interest at 3 per cent. per annum allowed on Deposits of $1 and upwards. Farmers' Business Solicited. Money Loaned on Note for Grass-feeding Cattle, etc.

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PROVINCIAL DEPARTMENT OF AGRICULTURE

The Better Farming Special being run by the Grand Trunk Railway in co-operation with the Ontario Department of Agriculture including the Ontario Agricultural College, Guelph, is being exceptionally well attended. These instruction coaches have been carefully equipped with material showing the most approved methods of producing farm crops, cultivating, draining and fertilizing soils, feeding live stock, dairy operations and equipment, poultry raising and egg production, eradicating weeds, combating insect and fungus diseases, vegetable growing and canning, besides containing departments showing modern household conveniences and labour-saving devices and farm water supply, sewage disposal and protection from lightning.

Each department is in charge of a demonstrator capable of giving information to those visiting the train. Everybody interested in agriculture will be made welcome. The cars will be open for inspection from 10.30 a.m. to 5,30 p.m., special lectures being given to school children from 10.30 a.m. to 12 noon.

Evening meetings will be held in the halls indicated below at which moving pictures illustrating up-to-date agriculture will be shown. In addition to moving pictures, lectures will be given at the evening meetings by agricultural experts. Not only men, but women and children, will find the evening meetings both instructive and entertaining.

Fare-and-a-third rates will be given on all Grand Trunk Railway trains within a radius of 80 miles, good going the date announced and preceding day, good returning date announced and following day.

The following is a partial itinerary of this train. Lists for February 24 to March 14, will appear in a later issue.

Place	Date		Hall
Wyoming ...	Feb.	5	Town Hall
Petrolia	"	6	Opera House
Watford ...	"	7	Town Hall
Strathroy ...	"	8	Town Hall
Ingersoll ..	"	9	Town Hall
Paris	"	10	Fire Hall
Burford	"	12	Barnie Hall
Norwich	"	13	Town Hall
Simcoe	"	14	Town Hall
Jarvis	"	15	Music Hall
Caledonia ...	"	16	Opera House
Cayuga	"	17	Town Hall
Welland	"	19	Court Room
Beamsville ..	"	20	Town Hall
Milton	"	21	Town Hall
Georgetown .	"	22	Town Hall
Inglewood Jct.	"	23	Public Hall

For folder giving fuller announcements apply to Geo. A. Putnam, Department of Agriculture, Toronto.

What Happened to an Old Farm

Showing How a City Man and Woman Became Back-to-the-landers

By EDGAR L. VINCENT

II.

A BETTER HOME FOR THE COWS.

THE MAN of whom we bought the farm had cut down hemlocks enough to make about twenty thousand feet of lumber, shortly before we came into possession of the place. The logs had all been peeled and the bark sold to the tannery; but the trees themselves still lay in the woods when we closed the bargain. According to the laws of the state I presume these logs would have belonged to me as a part of the place; but to make the matter sure, I had it put in the contract that the down hemlocks should be mine. Already I was looking on ahead to the better home that was to be for the stock.

I got a carpenter to make out a bill of the timbers and the lumber we would need for the new barn, intending to get the logs in the following winter when snow came. Queer how old Mother Nature upsets a fellow's plans sometimes. We did not have a bit of sleighing that winter. I will take that back. There was just one day when we hauled logs on the bobsleds. But we had our dander up and did not mean to be beaten by an open winter. I hunted up a big pair of trucks and we trucked these logs into the mill.

That winter, too, we got out the timbers that were to be hewed and drew stones for the basement retaining wall and the foundation stones. There was where the field stones that had been such an eyesore to me came in handy. I drew stones from the old hedge rows and fence corners. Even the pile out in the meadow disappeared. My fingers were worn to the quick, but my grit was as tough as ever. Sore fingers will heal up, but it is pretty doubtful whether a worn-out pluck will or not. When we had a heap of stones as big as the old barn, I made up my mind we had enough. But it takes a lot of stones for a wall fifty feet long, three feet thick at the bottom and a foot through at the top; and I had to draw more when the stonemason got to work.

THE OLD HAND-MADE NAILS.

Some of the timbers of the old barn could be used in the new frame and we had a lot of fun tearing the building down. The nails, some of them had been pounded out by hand on the anvil of an old blacksmith, who had his shop just across the road from our house, and anybody who has ever had anything to do with a wrought nail knows that they stick in lumber, especially if they are driven into a solid oak stick as a good many of them were. The braces were all of that kind of material. Some of them are now in the new barn, after having served their term in the old building for probably not less than half a century. But we got the old frame down and the beams, posts, sills and girts helped out quite a good deal in making the new bents.

A raising twenty-five years ago was quite an event in the history of the farmer folks of that locality; and as there had not been a new barn put up for a long time, we had a big day when we put up the new frame. The men and boys, good husky fellows, came from far and near. Often on such occasions it was the custom to treat the men at raisings to some kind of liquor, and many a fight or other serious difficulty could be traced to the effects of the stuff; but not a drop of any such thing figured in our raising, I am glad to say, and it went up without a hitch anywhere.

CITY OFFICES LACK OZONE OF THE FIELDS.

The day I handed in my resignation as a Government clerk, as I stepped along the corridor of the big building, I caught a glimpse of myself in a large mirror, and I was honestly a little bit scared. The figure reflected there was of a man thin in flesh and as pale as a ghost. I knew I had not been very well for a long time. The confinement of the office was quite contrary to my nature. I loved the pure air of the great out-of-doors; but I felt more convinced than ever when I looked at myself that morning that I was not making a mistake in getting out of the close, stuffy rooms.

But the life of the farm had worked wonders for me even by the time we raised the barn. I had an appetite for anything any man ought to eat and I was as strong as any man of the neighborhood. I remember how I picked up some of the sleepers of the main floor of the barn alone and laid them in place. These sticks were thirteen feet long and from eight to ten inches through. It was too much for one man to do, but it was a day of excitement and I did not realize what I was doing. I did the next day, however. I was lame from head to foot: but the barn frame was up, and I was happy.

WEATHERVANE ATTRACTS ATTENTION.

We had some of the logs from the woods sawed for siding and every board used this way was surfaced nicely. It was my plan to put a coat of paint on the barn when it was done. First we put on a coat of ochre and followed that with Venetian red, trimmed along the cornices and corners with white. I tell you, that barn looked fine to me, and friends along the creek told me very kindly that it was the best barn in the township. On the top of the roof we put a nice cupola, surmounted by a post and rod, at the top of which was a pretty compass and arrow for the weathervane. That compass has been watched all the years since, not only by the folks on our own farm, but also by everybody who passes by. We have been guided a great many times in our farm operations by that pointer on the barn, especially when the prediction of the arrow was backed up by the thirty-inch barometer at the house.

Two or three things we put into that barn that never had been seen in any barn of the neighborhood. One was stairs to go from one floor to another. Not little narrow affairs either, but good broad ones and easy to climb. I had done my share of shinning up a post whenever I wanted to

get down a little hay or straw. I know many barns even now which are not provided with anything except a perpendicular ladder framed into the middle post. Think of the strength that is wasted that way! It was not long before we outgrew this new barn, and had to put on a good-sized addition, and finally took the basement all out, put in longer posts, dug down and put in a cement floor over the entire surface. Then we took out the old windows and put in big sash and lots of them. This gives our stock all the fresh air they need, as well as plenty of light, two things every up-to-date barn must have.

GETTING INTO THE NEW STABLE.

It was a big day for the cows when they came into the new barn. Talk about comfort! They never had known what it was before. Every crack in the siding, not only of the basement where the cows had their home, but those of the upper part had been covered with four-inch battens. It never froze in that stable. In fact, I had to look out or it would get too warm down there.

Another very convenient thing in connection with the barn was a sixteen-foot shed, thirty feet long, open underneath for stock. The upper part opened out to the floor where the horses were stabled and was handy to store straw in for bedding. But we did make one mistake in planning to stable the horses above the basement. I never would do that again. The floor was always wet where they stood and when we made over the barn again, we took the horses downstairs where they ought to have been in the first place.

I have been careful about describing our barn, because as I look at it, there is no more important building on any farm than the barn. *Much of the success of the farmer, as well as his own health and length of life, depends upon the barn.* This was not understood years ago as well as it is now, and that is why we have made such slow progress in the size, structure and arrangement of these buildings.

To be continued.

FARMERS REPRESENTATIVES IN PARLIAMENT

Editor THE FARMER'S MAGAZINE:

History records progress and development following closely upon all efforts of the people to extend democratic ideas in government. From the Magna Charta, which was a mere right to veto a tyrant's demand for money, down to our modern facilities for industry, commerce and education, the use of democracy has been attended by concurrent freedom for the people.

Captains of industry and commerce send candidates to the Federal House, who fail not to secure for them, government bonuses, government bond guarantees, and unlimited influence in the settlements of tariffs, etc.

Surely the words of the Younger Pitt are applicable now. He said: "This house is not the representative of the people. It is the representative of nominal boroughs, of mined and exterminated towns, of noble families, of wealthy individuals, and of foreign potentates."

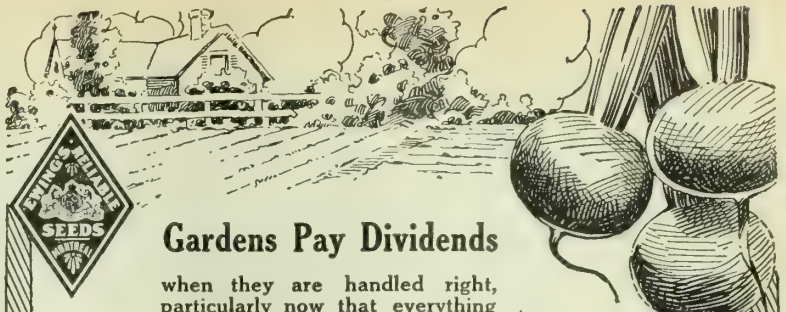
Look for yourself. Who are the men who appeal for rural votes? And what do they stand for? Why do they agitate political, religious, and race prejudices? Are their interests our interests? What will they do for the people they represent?

National responsibility is now falling heavily upon our farmers. We must be responsive, but first we must be responsible.

We don't need a farmers' party.

We need representation in its fullest sense with representative leaders.

—J. E. Olmstead.



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Gardens Pay Dividends

when they are handled right, particularly now that everything eatable is so expensive.

Nothing is more important than the selection of seeds, and for this the safest guide is our new Illustrated Catalogue of

EWING'S SEEDS

No unworthy variety gets into this Catalogue—and no poor seeds go out to those who order from it.

Ewing's Seeds have produced forty-five successive and most successful crops in Canadian gardens and fields, and are ready now for the forty-sixth. Why not have a share in it?

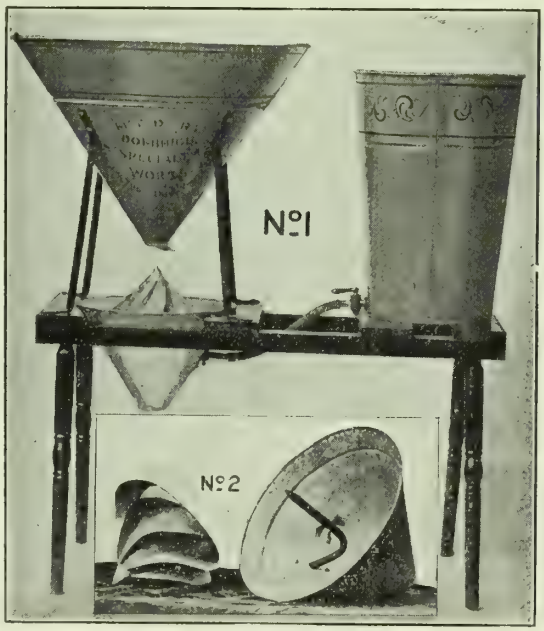
Write now for this Catalogue, and if your Dealer hasn't Ewing's Seeds, order from us direct.

THE WILLIAM EWING CO., LIMITED
Seed Merchants, McGill Street, Montreal.

Ewing's Detroit Dark Red Turnip Beet

Valuable for its remarkable uniformity and smoothness; size medium; flesh rich red, fine-grained, tender and remaining so for a long time; admirable for either summer, fall or winter use. The tops are dark-colored and vigorous. One of the best varieties for the home garden or market and equally good to store for winter. ***Lb. $1.50, ¼ lb. 50c; oz. 20c; Pkt. 5c.*** *Sent postage paid — cash with order.*

52



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Farmers lost $5,000,000.00 by smut on grain in 1915 (Globe July 4, 1916).

You do not have to stand this loss if you stop sowing *smut* seeds with your seed grain.

You must kill the smut before you plant the seed.

The Smut Killer does it.

The price is $15.00.

Order one now and prevent loss on this year's crop.

Agents wanted.

The Seed Treating Machine Co., Limited
STRATFORD - ONTARIO

Pull 100 Stumps A Day—With The Hercules

NO STUMPS too big. Get the richest, most productive land into crops. Make more money. *Hercules* on 30 days' free trial. Three-year guaranty. Safe and fast. Send post card for free book. Introductory price offer now.

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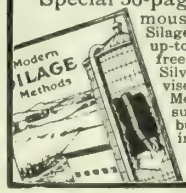
"How To Feed Silage" FREE

Special 36-page chapter from famous 264-page book "Modern Silage Methods." Write for copy. Get up-to-the-minute helpful suggestions free. Also get our free catalog on Silver's "Ohio" Silo Fillers. 1917 revised edition of "Modern Silage Methods" 25c, covers entire silage subject—every type of silo—how to build, 41 crops used, feeding, 8-page index. 56 illustrations. Write now.



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MAY MEAN DOLLARS TO YOU

IF an extra $5.00 or $10.00 a week interests you and you have two or three hours a day that you can spare, let us tell you how that much time can be turned into money. The more time you have the better the pay. We'll buy all you have and pay cash for it.

We need bright, active, hustling young men and women as district representatives. We will within the next month make hundreds of appointments—why not write at once and *secure* your district. If you are looking for an increase in wages, to take care of your many extra summer needs—our plan provides the money for them without interfering in the least with your regular duties.

Recently, here in Toronto, one young man earned $30 in one week. He devoted an average of four hours each day to looking after our subscription business. Would an income like this interest you? Write us to-day; we will gladly send you full particulars concerning the plan without obligating you in the least—simply say, "Show me how to turn my spare time into money."

Address

The MacLean Publishing Co.,
Limited

Dept. F.M. TORONTO Canada

About Live Stock

AMOUNT OF SILAGE FED PER DAY

Kinds of Stock—	Daily Ration Pounds
Beef Cattle—	
Wintering calves 8 months old	15 to 25
Wintering breeding cows	30 to 50
Fattening beef cattle 18 to 22 months old—	
First stage of fattening	20 to 30
Latter stages of fattening	30 to 50
Dairy cattle	30 to 50
Sheep—	
Wintering breeding sheep	3 to 5
Fattening lambs	2 to 3
Fattening sheep	3 to 4

HOG FEEDING RATIONS

Some farmers are foolishly disposing of their young pigs at a big sacrifice, and I am afraid that they will be buying pigs back again at very high prices in the spring. There is no form of livestock that varies in prices so quickly. A few years ago, I think it was about 1908, that hogs were a total loss during the fall and we could not give them away. A man who had a sow to farrow, felt like the old man who had 50 acres of sandy land and was thankful it wasn't 100 acres.

True, indeed, it is a time of high prices for feeds, but alfalfa and clover hay has been cheap and it is surprising how well one can keep young shoats on a small meal feed and plenty of clover. A miller in Ontario county told me last week that one farmer he knew was feeding his hogs home-grown wheat which was worth $60 a ton in the market. He was certainly extravagant, as $40 feeds would have been better and saved the farmer $20 a ton.

A good ration with clover and some milk or water, is as follows:

Oats, finely ground....50 parts.
Barley, finely ground ..20 parts.
Shorts .....20 parts.
Oil Meal .....10 parts.

This will not cost over $2.40 per cwt. and by careful work, the pigs will grow well.—F.C.M.

MANITOBA'S DAIRY BUSINESS

The table covering the dairy products marketed in Manitoba—exclusive of those consumed in the farmer's own home—is given below.

This is an increase of 16½% over last year.—George Batho.

Product.	Pounds	Price	Total Value
Creamery butter	6,574,510	31.0	$2,038,098.10
Dairy butter	4,423,289	25.2	1,114,668.82
Cheese	880,728	18.0	158,531.04
Total	11,878,527	....	$3,311,297.96
Milk	45,401,043	2.2	998,822.94
Sweet cream in lbs. butter fat	478,242	36.0	172,167.12
			$4,482,288.02

U.S. SHEEP MARKETINGS

Markets.	1916.	1915.
Chicago	4,291,024	3,510,015
Kansas City	1,758,175	1,814,683
Omaha	3,170,908	3,268,279
St. Louis	670,838	648,141
St. Joseph	804,326	877,930
Sioux City	320,537	337,079
St. Paul	621,300	704,119
Denver	1,409,009	765,170
Fort Worth	430,911	363,003
Buffalo	796,558	835,128
Totals	14,273,586	13,123,547

Net increase 1,150,039 (8.76%).

AVERAGE PERIODS OF GESTATION

The period of gestation in animals varies considerably, but the following is an average period based on a long series of observations:—

Ass	12 months
Mare	11 months
Cow	9 months
Sheep	5 months
Goat	5 months
Pig	3½ months
Bitch	9 weeks
Cat	8 weeks
Rabbit	30 days
Guinea pig	65 days

WHAT'S TIME TO A HOG

A bulletin issued by the Irish Department of Agriculture, as quoted by an exchange, says that it has been found, as the result of experiments, that pigs thrive better on uncooked than on cooked food. This, in a way, justifies the indifference of the hog-raiser in a well-known story. The professor had said to him, while watching him feed his hogs uncooked food, "If you would cook that stuff, the hogs would digest it in half the time." "What's a hog's time worth?" was the unfeeling reply. And now science justifies empiricism!

THE LIVESTOCK MAN SAFE.

The man with livestock on his farm is the man who is going to make most money during 1917, says Prof. G. E. Day, of Guelph. "Which farms," he asked, "gave the best returns in the unfavorable season of 1916? Was it not those which had been most heavily stocked for years? How is next year's crop production to be kept up if stock is sold off and the soil thus depleted of its fertility? Furthermore, is there not danger that those who are selling now will have to buy at famine prices later on?"

Used and Endorsed by 50 Agricultural Colleges.

ZENOLEUM

MADE IN CANADA

Used by Dominion and Provincial Experimental Stations.

The Great Coal-Tar Disinfectant

Indispensable for the Curing of Diseases in Cattle, Swine, Sheep, Poultry and Horses, and for the Disinfecting of Pens, Poultry Houses and Stables. The Greatest Known Preventive of Disease or Contagion.

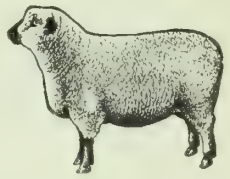
ZENOLEUM Disinfectant, Animal Dip, Lice Killer. Will not poison. Will not hurt. Will not explode or burn. Kills vermin and lice. Cures skin troubles and mange. Disinfects incubators, stables and poultry houses. A remedy for diseases of poultry and all live stock, and the most effective dip on the market. Has been found by experiment to have greater disinfecting and germ-killing efficiency than competing coal-tar disinfectants and several times the efficiency of pure carbolic acid. Carbolic acid costs $16 per gallon, and Zenoleum costs $1.50. Which will you have? Carbolic acid so frequently burns and poisons whatever it touches, it is dangerous. Zenoleum is more effective in disinfecting and is *absolutely harmless.* You prefer Zenoleum, don't you? Ask your dealer for it and insist on getting it, or else order direct—shipped carriage prepaid at same price as at stores. Get some at once to keep on hand.

Zenoleum for Poultry

For lice and mites, frost-bites, pip, chickencholera, foot disease, canker in chicken, tuberculosis, scaly leg, gapes, blackhead. Poultry, when well taken care of, return a greater interest on the money invested than any other live stock on the farm. You will be money in pocket by ensuring the health of your flock and the sanitation of the surroundings by using Zenoleum. Leading poultrymen everywhere use Zenoleum for disinfecting roosts, nests, houses and incubators. We make Zenoleum Lice Powder; effective and particularly convenient for use in cold weather.

Zenoleum for Swine

A thorough disinfectant for pens, yards and troughs, capable of destroying germs of contagious diseases. For hog lice, eczema, granular eruption, mange, sore tail, canker of the nose, mouth disease, nettlerash, scours, worms, cuts, bruises and garget. Also is a valuable antiseptic in castration. If your pigs are to do their very best, they must be free from disease and housed in healthy buildings. Bring them up the "Zenoleum" way. It pays in weight and condition at market time.

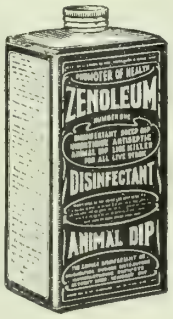


Zenoleum for Sheep

For ticks, flies and maggots, scab, red or white lice, castration, stomach worms, sore mouth, lung worms, foul, etc. Will not injure or discolor the fleece.

Zenoleum for Cattle

For cattle-lice, horn-flies, ringworm, eczema, surfeit, mange, scours, screw worms, sore mouth, foul in the foot, abortion, bloat, cow pox, retention of the afterbirth, garget and milk fever. First-class milk, cream or butter can only be produced by healthy cows stabled in sanitary buildings. The logical way—the health insuring way—Zenoleum.

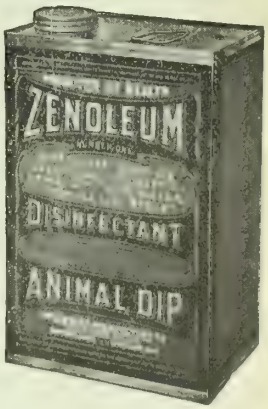


25c size makes 5 gals. disinfectant dip and lice killer.

50c size makes 20 gals. disinfectant dip and lice killer.

90c size makes 40 gals. disinfectant dip and lice killer.

$1.50 size makes 80 gals. disinfectant dip and lice killer.



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A folder giving practical information by recognized authorities on the prevention and curing of diseases in horses, hogs, poultry, sheep and cattle. To know how and what to do will, perhaps, some day save you a valuable animal. Be prepared. Get it to-day. It is free for the asking.

Ask your Dealer for Zenoleum, or order direct from our Laboratories. 25c, 50c, 90c, $1.50, by parcel post, prepaid.

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White Wyandottes, Martin's Regal Strain—Cockerels $3 to $10, utility and exhibition quality. Yearling hens and pullets, $2 to $5, according to quality; all grand laying stock. Hatching eggs from selected pens, $2 for 15; $3.75 for 30; $5.25 for 45; $6.50 for 60. Utility pens, $1.25 for 15, or $8.00 per 100. Book orders now. Satisfaction guaranteed.
A. HOBBES, Care Northern Crown Bank
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S. C. WHITE LEGHORNS
from best imported bred-to-lay strains with trap-nest records of 200 or more eggs per hen. Choice cockerels, sure to improve the laying qualities of any flock, $2.00 each. Baby chicks, 15c each, $12.50 per 100. Hatching eggs, $1.50 per 15, $7.00 per 100; $60.00 per 1,000.
THE COOKSVILLE POULTRY FARM
G. H. Crump, Prop.
Cooksville - Ontario

MANITOBA'S LIVESTOCK INCREASE

During 1916 the number of animals born in Manitoba are shown:—

Foals	33,709
Calves	146,844
Lambs	48,089
Young pigs	220,121

MILCH COW RATIONS

No. 1.

Roughage—
Alfalfa hay at will.
Corn silage 35 to 40 pounds.

Grain—
Ground corn or ground corn and cob, feed one pound per day for each 4 pounds of milk produced.
For very heavy milkers, add a little bran.
For very light milkers, the hay can be reduced.

No. 2.

Roughage—
Alfalfa hay 10 pounds.
Corn stover at will.
Corn silage 30 to 40 pounds.

Grain—
Ground corn 5 pounds.
Wheat bran 5 pounds.
Linseed meal 1½ pounds.
1 pound grain to 3 to 4 pounds milk daily.

No. 3.

Roughage—
Alfalfa hay 10 pounds.
Clover hay at will.
Corn silage 30 to 40 pounds.

Grain—
Corn and cob meal 5 pounds.
Wheat bran 3 pounds.
Cotton-seed meal ½ pound.
1 pound grain to 4 pounds milk daily.

No. 4.

Roughage—
Clover hay at will.
Corn silage 30 to 40 pounds.

Grain—
Ground corn 5 pounds.
Ground oats 5 pounds.
Cotton-seed meal 1½ pounds.
1 pound grain to 4 to 5 pounds milk daily.

No. 5.

Roughage—
Clover hay 10 pounds.
Corn stover at will.
Corn silage 30 to 40 pounds.

Grain—
Ground corn 5 pounds.
Wheat bran 4 pounds.
Gluten feed 3 pounds.
Cottonseed meal 1 pound.
1 pound grain to 4 pounds milk daily.

No. 6.

Roughage—
Cowpea hay at will.
Corn silage 30 to 40 pounds.

Grain—
Ground corn 5 pounds.
Ground oats 5 pounds.
For very heavy milkers add a little bran or oil meal.
For very light milkers reduce amount of hay or oats.
1 pound grain to 4½ pounds milk daily.

No. 7.

Roughage—
Cowpea hay 10 pounds.
Clover hay 10 pounds.
Corn silage 30 to 40 pounds.

Grain—
Ground corn 5 pounds.
Ground oats 4 pounds.
Linseed meal 1 pound.
1 pound grain to 4 pounds milk daily.

No. 8.

Roughage—
Clover hay 10 pounds.
Corn stover at will.
Corn silage 30 to 40 pounds.

Grain—
Ground corn 5 pounds.
Wheat bran 5 pounds.
Cotton-seed meal 1½ pounds.
Gluten feed 3 pounds.
1 pound grain to 3½ pounds milk daily.

No. 9.

Roughage—
Corn stover 10 pounds.
Millet hay at will.
Corn silage 30 to 40 pounds.

Grain—
Ground corn 4 pounds.
Ground oats 4 pounds.
Wheat bran 4 pounds.
Cotton-seed meal 2 pounds.
1 pound grain to 3 pounds milk daily.

No. 10.

Roughage—
Oat hay at will.
Corn silage 30 to 40 pounds.

Grain—
Ground corn 4 pounds.
Wheat bran 4 pounds.
Cotton-seed meal 1 pound.
Gluten feed 3 pounds.
1 pound grain to 3 pounds milk daily.

The following feeds are interchangeable in the above rations:
1. Alfalfa, cowpea, 1½ times as much clover.
2. Millet, Hungarian, oat hay, redtop, sorghum, corn stover, timothy, etc.
3. Silage, beets, mangels.
4. Ground corn may be replaced by oats, barley, emmer, rye or Kaffir corn.

A Livestock Survey, 1916-1917

Continued from page 12.

try of excess pork production, is about 5 per cent. less than last year. This has been due to cost of feed and failure of the 1915 corn crop in Iowa and Illinois, which sent millions of sows to the shambles. Despite high prices of wool and mutton sheep breeding is decadent, except in a few localities. In the North-West settlers have occupied the lambing range, on the bench lands, forcing scores of big outfits to close out. This is an irremedial condition.

AFTER-WAR DEMAND IN EUROPE.

Europe, during the war, has been a heavy consumer of foreign beef and it is reasonable to assume that this demand will continue for some time after peace is restored. Cessation of hostilities will reopen the markets of the Central Empires and absorb enormous quantities of hog product, in fact packers are open to the suspicion of accumulating it with expectancy of that outlet. If France, Italy and England continue to buy South American beef, which is probable, high prices will continue. All Europe has been on short rations so far as meats are concerned and will welcome an opportunity for an increase in supply. Peace means lower prices for breadstuffs, but a broad demand for meat. Army consumption will continue during the disarmament period and that cannot be accomplished in a day.

WORLD'S CHIEF CATTLE COUNTRIES.

A recent estimate on the number of cattle in the chief beef-producing countries of the world, per thousand inhabitants, comes from an European source and is interesting, although doubtless an approximation:

England	263	Denmark	758
Russia	313	Canada	803
Germany	327	Australia	2,021
United States	739	Argentina	4,487

This credits Russia with an enormous number owing to its large population, but Russian cattle are small and yield little beef. The figures are based on antebellum conditions and by this time German herds have been seriously depleted. Prevailing drouth and a locust plague has given the cattle industry in Argentina a set-back and a similar catastrophe in Australia has put a crimp in production. Brazil exported some beef in 1916, and is regarded as a probable source of supply, and South Africa's contribution is swelling, although neither country is a serious contender in the markets of the world.

A WOOL FORECAST.

Wool trade is riding on the crest of a boom due partly to the war, partly to legitimate increase in consumption, and in a measure to drouth in Australia and reduction of flocks in the United States.

Boston is predicting that scoured wool of the 1917 clip will sell at $1.50 per pound, owing to the British Embargo. The great bulk of the world's wool clip originates within the limits of the British Empire and holding immense stocks of raw material would give England a decided advantage if the war ended. *Ever since* 1913 *the world's wool clip has been diminishing.* The tendency all over the world is for the quick-maturing lamb, which, passing into consumption before being shorn, leaves nothing to go into the bag as packers market the fleece scoured. This is a factor not heretofore reckoned with, but which cannot be ignored. With cotton at 18 and 20 cents, and all wool substitutes selling high, the future of the wool market is assured.

SUMMING IT UP.

Measuring from every angle the position of cattle, hog and sheep growers is stronger than at any period since the livestock industry secured a footing on this continent. Admitting the probability of some upheaval during the readjustment period when peace returns any vicissitude resulting therefrom will be mainly at the expense of the speculator who happens to be in deep water at the moment. For the producer on a legitimate basis, the land owner who is raising any class of domestic animals and consuming his own product in the operation nothing calamitous can happen. An Iowa feeder who recently sold a load of fat cattle on the Chicago market was asked if beef-making on high-priced corn was remunerative. "My corn wasn't that kind. I raised it myself," he replied. Between growing corn and feeding cattle he made money and it was not necessary for him to figure at which end of the transaction the profit developed. The cow capable of raising a calf that can be sent to market as a fat yearling, the sow mothering a litter of pigs or the ewe that shears a fleece and suckles a single fat lamb annually will more than pay their board plus interest on the investment hereafter unless the entire industrial and commercial firmament collapses. *That the year* 1917 *will witness a high set of markets is a safe prediction.* Winter feeding operations are on a reduced scale everywhere owing to high cost of feed, both European and domestic consumption is broad, packers have been accumulating product of 10½c. hogs, a price unprecedented in January, and clamoring constantly for more at the price, while sheep and lambs are prize

Continued on page 77.

"PAY YOURSELF FIRST"

THAT'S RIGHT — every day you work our plan, your pay is given you. "Pay yourself first," that's the idea of our representative plan. When you devote ten hours daily acting as our representative—your pay is sure and certain.

We need a hustling representative right in your district. A young man capable of producing good business, preferably one with salesmanship experience. The position will pay big money to one with enthusiasm, energy and ability. Do you know, or are you such a man?

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THE MACLEAN PUBLISHING COMPANY, Limited
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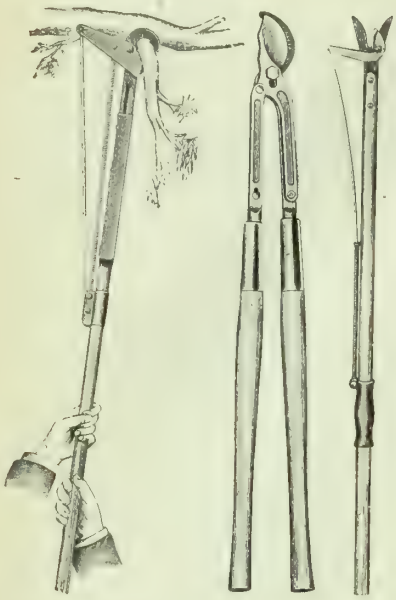
Easy to Prune

Work that was a hardship—now a pleasure



Taylor-Forbes pruning tools are designed on new principles. They so greatly reduce the work that five or six trees can be trimmed in the time formerly required for one. They quickly pay for themselves by the economy in time they afford.

The Kansas, a general utility Knife, suitable for pruning trees, shrubbery and hedges. It has a wide range of action. It will cut the smallest twig or a green limb 1¾ inch through.

Orchard King can be worked where limbs are close together, removing one without injury to the others. The blade is of finest temper and is removable for sharpening. The handles are made of hard maple, carefully selected, well seasoned, and of ample strength.

Happy Thought—This knife has a pump gun action which is very effective for setting back budding, shaping and trimming. It is a general favorite for light or medium work. It permits the operator to stand on the ground. It will cut limbs up to ¾ of an inch, works easily, has a powerful leverage, and long drawing cut, which are features of all our pruning knives.

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Ask your dealer. Write for our Booklet "F." Learn how to care for your trees.

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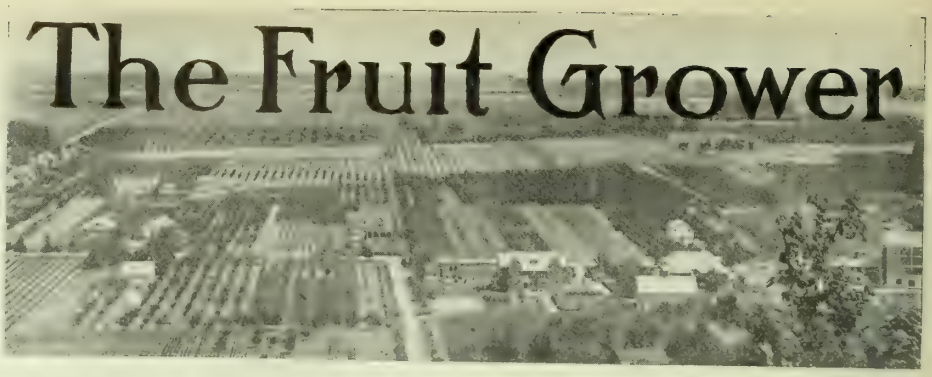
The Fruit Grower



WHY ORCHARDS DO NOT MULTIPLY

The reasons why apple trees do not produce so as to flood the markets are summed up under the following heads:

Increasing orchard pests.
Too slow returns for many people.
Lack of advertising.
Bad marketing.

B.C. APPLES TO AUSTRALASIA

The commercial agent at Sydney, N. S. W., reports that apples were brought from San Francisco and Vancouver to the amount of 78,369 cases, for which $2.92 to $3.41 per case were received. Jeffries, Wealthy and Cox's Orange were deemed by the trade to be good varieties. The majority of the apples were Winesaps.

SOILS FOR DIFFERENT APPLES

It is a sore disappointment to a man to find after years of waiting that his soil has not been suitable for good apple yields. While it is almost impossible to advise as to the proper soils for the various varieties of apples, some help may be derived from the findings of other men. Quoting from *Sear's Productive Orcharding*, we find the following recommendations:

Baldwins require a medium to semi-light soil. This includes medium to light loams, the heavy sandy loams and medium sandy loams, if underlain by material not lighter than medium loam nor heavier than a light or medium clay loam. A good test for Baldwin soil is, if corn is grown that the lower leaves cure down before cutting time.

The *Rhode Island Greening* has two distinct color tones. The "green" Greening and the blush Greening require somewhat different qualities in the soils. To grow a "green" one requires a surface soil of heavy silty loam or light silty clay loam underlain by silty clay loam. The soil should be rich in organic matter and the lower leaves of corn grown there should be green till harvest time. If a Greening with a blush is wanted, a warmer soil should be selected. Soils approaching the Baldwin type should be favored.

The *Northern Spy* is an exacting apple in the matter of soils. To obtain good quality of fruit, fine texture, juiciness and high flavor, the soil must be moderately heavy. We do not want the greasy skin with lack of color nor do we want too high a color and a poor keeper. The Spy with

SPRAY MIXTURES

Spray	Ingredients	Formula	For Small Sprayers
Bordeaux Mixture..	Quicklime Bluestone Water	4 lbs. 4 lbs. 50 gals.	1½ tablespoons. 1 tablespoon. 4 quarts.
Kerosene	Kerosene	2 gals.	1 pint.
Emulsion	Water	1 gal.	½ pint.
Dilute 1 to 15 or 20.	Hard Soap	½ lb.	1 cubic inch.
Lime Sulphur .. ... Commercial	Lime Sulphur Water		
Lime Sulphur .. .. Home Boiled			
Arsenate of Lead ..	Lead Arsenate (Paste) Water or Bordeaux or Lime Sulphur	3 to 20 lbs. According to manufacture. 100 gals.	1 tablespoon. 1 gallon.
Paris Green	Paris Green Water or Bordeaux Mixture	1 lb. 200 to 300 gals.	1 teaspoon. 3 gallons.
Ammoniacal Copper Carbonate	Copper Carbonate Ammonia Water	6 ounces 3 pints 50 gals.	2 teaspoons. 2 fluid ounces. 2 gallons.
Lime Sulphur .. .. Home Boiled	Fresh Stone Lime Sulphur (flowers) Water	20 lbs. 15 lbs. 40 gals.	Slake 20 lbs. lime in 15 gals. boiling water in kettle. While slaking, add 15 lbs. sulphur made into a paste. Boil 1 hour. Dilute to 40 gals. Strain and apply.
Lime Sulphur .. .. Concentrated	Commercial Lime Sulphur	Dormant 1 gal. Lime Sulphur to 8 or 10 water 2nd Spray 1 gal. Lime Sulphur to 27 water 3rd Spray 1 gal. to 30 water	Test with hydrometer.

good color, clean skin and a good keeper, requires a medium loam underlain by a heavy loam or light clay loam, well drained.

Wageners require a deep, strong, mellow and loamy soil. Stiff subsoils are especially objectionable as well as thin soils and light sandy loams.

Gravensteins give growers much concern. It should not be forced in growth until 15 years old. On rich moist grounds or with heavy fertilization its growth is rarely matured early enough in the season to avoid winter injury. Mineral fertilizers as basic slag should be used.

McIntosh Red is a most desirable apple. A recent bulletin from the Central Experimental farm, gives the record for 27 years of a McIntosh tree in the soil there yielding an average of three barrels per year after its 8th year. It is hardier than the Snow.

Only a beginning has been made by any experiment stations in this work as yet.

A Livestock Survey

Continued from page 75.

packages at every market in the world, wool bearing much of the burden.

A word concerning the packer will be timely. He has not enjoyed a reputation for encouraging the grower, his policy from the inception of the industry having been to insist on bargain sales at every opportunity. He has acted on the theory that it is a big country and that from somewhere will come the supply of raw material necessary to keep his plants running, but of late departure from this bird-in-the-hand policy has been suggested by the movements of those who during the past ten years have succeeded in concentrating the industry. The packer is courting the producer; his tone is conciliatory, his attitude friendly. Doubtless he is desirous of stimulating production; perhaps he realizes that his former cold-blooded *steal-'em-when-you-get-a-chance* system was inimical to the welfare of producer, manufacturer and consumer, but the change is gratifying. Producers and packers are independent and any attempt at tyranny on the part of the latter will deter the former from expansion. All the encouragement the grower of cattle, hogs and sheep asks is stable and remunerative markets. With this assurance he will have incentive for added efforts. Draw a line across Canada and the United States through Winnipeg; on the West will be found a region where cattle and sheep thrive as nowhere else on this mundane sphere, rich in natural grasses and capable of producing such forage plants as these animals need in unlimited quantities; to the East is the half of the North American continent adapted by nature to dairying and hog raising. The trend of the times is in that direction, but *it will be a transition and development so gradual that the market will always be in receptive mood.* The menace of combinations among manufacturers and middlemen for the purpose of levying tribute on producers is not to be ignored, but such evils eventually furnish their own remedy.

U.S. LIVE STOCK REPORT

The Washington report issued the 26th of January shows comparisons with Jan. 1st, 1916, in the amounts of live stock in hand.

	Increase	Decrease
Horses	.....	33,000
Mules	46,000	....
Milch cows	660,000	....
Other cattle	1,037,000	....
Sheep	.....	142,000
Swine	.....	313,000

The estimated number on Jan. 1 were:

Horses	21,126,000
Mules	4,639,000
Milch cows	22,768,000
Other cattle	40,849,000
Sheep	48,483,000
Swine	67,453,000

As it purports to be nothing but an estimate it is of little value. The increase in cattle looks reasonable. The decrease in sheep is underestimated and the current hog movement indicates a decrease of 5 per cent. in the merchantable crop.—J.E.P.

U.S. LIVESTOCK VALUES

Value of farm animals on farms and ranges of the United States on Jan. 1st aggregated $6,685,020,000, which is an increase of $664,350,000 over their value of a year ago.

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Fig 96—"Handy" London Concrete Mixer.

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We make Concrete Mixers in all sizes and capacities, from 40 cubic yards to 500 cubic yards per day, and suitable for the smallest repair work or for the largest Government job. **It doesn't pay to mix** concrete for small jobs by hand labor.

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Dunn Cement Drain Tile Machine makes all sizes of tile. There are large profits in the cement drain tile business. Ask for Catalogue No. 2.

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Pruning the Spy Tree:

By
R. A. BODDY, B.S.A.

The Pruning of Apple Trees, With Special Reference to a New Method of Pruning the Northern Spy

A Northern Spy apple tree, grown in orchard near Summerland, B.C., showing the effect of incorrect pruning, as explained in accompanying article.

IN THE pruning of fruit trees for the purpose of obtaining the best quality of fruit in greatest abundance, it is essential for the fruit grower to know where the fruit buds are produced, so that he can determine how far to head back without cutting off the present year's or following year's crop of fruit. A fact well known to students of horticulture is the wide variation among fruit trees in general in the manner of producing their fruit buds. The cherry tree, for example, differs from the peach tree, and both of these again differ from the apple tree. Then again, apple trees differ from each other as to the position of their fruit buds.

As fruit growers are aware, some apple trees bear their fruit on one year old wood, while others produce their fruit on wood two years old. Still other varieties of apples are found on three year old wood, and one other variety produces its fruit on wood four years old.

The apple trees which produce their fruit mainly on the one year old wood include a couple of the crab apple varieties, namely, the Transcendent and the Martha. The Ben Davis apple is also included in this list.

The Martha crab and the Ben Davis apple also belong to the second list of apples, which are found principally on the two year old wood. Other varieties included in this list are the following:

Alexander, Whitney crab, Bottle Greening, Wealthy, Duchess, Winter St. Lawrence, Astrachan, Tolman Sweet, Grimes Golden, Golden Russet and the Hyslop crab.

The third list of varieties (in which the bulk of the fruit buds are borne on wood three years old) includes the Gravenstein, North-West Greening, McIntosh Red, Fameuse or Snow, Canada Baldwin, and the Stark.

To the fourth and last class belongs the Northern Spy, the most important of all the varieties of apples as far as the Province of Ontario is concerned. The pruning of the tree will be dealt with at length.

The cooking apples include the two Greenings, the Stark, Grimes Golden, Alexander and Canada Baldwin; while the favorite apples for table use include Snow, Winter St. Lawrence, McIntosh Red, and Gravenstein. But the Northern Spy is king of them all, for it has no peer for either cooking or table use.

Considering the pruning of apple trees in general, two methods have been adopted to suit the differences in the habit of growth in respect to the position of the fruit buds. The common method is that of heading back to the fruit buds, while the other is that of thinning out the side branches. For example, if an apple is borne on a terminal shoot it has been advised to thin out the side branches, whereas when the fruit is produced directly on the branch itself the practice in vogue is that of heading back to the fruit buds.

Of course there are exceptions to these rules, such as when the main fruit crop is not confined to the wood of any one particular year; for example, the trees which bear their fruit on both the one year old and the two year old wood. However, among fruit growers there is a general tendency to treat most of these varieties of apple trees alike. As the branches of all these trees fork at the ends in three prongs, the practice so far has been to head back along the central shoots to the laterals which are likely to bear the main fruit crop for that year. For example in the case of trees which produce their fruit on the two year old wood cut back the central shoot to the two year old laterals, and in the case of trees where the fruit is found on the three year old wood cut back to their fruit-bearing laterals. Then in order to develop the largest fruit buds cut back along the laterals to those buds so that the best quality of fruit may be obtained. This can be done to best advantage among the varieties that produce their fruit on comparatively young wood.

Plate I.

Apple trees grown in O.A.C. orchard, Guelph, Ont.

NORTHERN SPY PRUNING.

In the case of such a tree as the Northern Spy, however, which bears its fruit on comparatively old wood the pruner faces a more difficult problem, for if he follows the general rule he should head back to the fruit buds. But if he does this he cuts off wood three years old and younger, and incidentally cuts off his crop for the next three years. Evidently he must then leave these branches intact

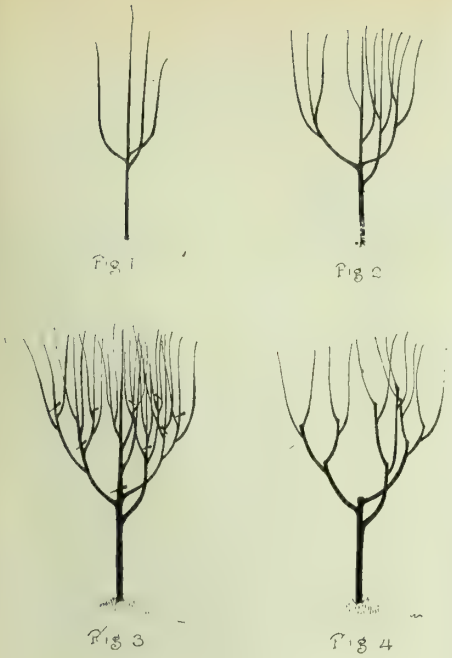

Plate II.

and not cut back to the fruit buds. What is he to do? How is he to open up his tree to the sunlight in order to obtain well colored and well developed fruit? Apparently the only alternative method is that of thinning out the side branches, but we shall see presently the disadvantages of this method.

I might say here that in this article it is spring pruning which is being discussed.

In British Columbia, for instance, where the Northern Spy tree is extensively grown, the method of pruning it is as stated above. Consequently this tree can be easily recognized by its long, bare, slender branches pointing straight up to the sky, the foliage and the fruit—the weight of the branch—being at the top, out of reach of the fruit picker, resulting in many cases in breaking off the entire branch.

An alternative method of pruning this tree, which is based on the experience of certain practical fruit growers, appeals to me as a decided improvement on the method just referred to.

HOW THE TREE GROWS.

Before undertaking, however, to prune this tree it would be well first to consider its method of growth in respect to its branching habit. In this regard it is not much different from that of the other varieties of apple trees; for like them it grows a central leader which should be cut out when the young tree is transplanted from the nursery to the orchard. Like the other varieties also the branches of this tree fork at the ends in three prongs. Now as its branching habit is similar to that of the other varieties of apple trees, why should not the pruning be done in a similar manner?

The method of pruning referred to is as follows:

Referring to Plate II., Fig. 2, and also to Plate III., Fig. 2, it will be noticed that in the former figure the central prongs are retained. These prongs should be cut out as shown in the latter figure. The following year these remaining prongs will become branches, each branch in its turn forking at the end in three prongs. (See Plate II., Fig. 3.) If the central

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Dust Spraying has proven itself under the most exacting tests, even with the crudest kind of Dusting Machines.

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We have for sale a large quantity of high grade, O.A.C. No. 72 Oats, and O.A.C. No. 21 Barley, grown from carefully graded, selected seed. Guaranteed true variety, and free from all noxious weed seeds. No. 1 Red Clover Seed.

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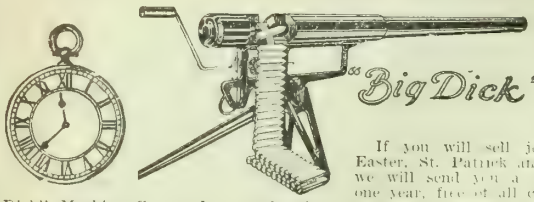
FREE TO BOYS MACHINE GUN AND WATCH



Machine Gun, 9 inches high, 23 inches long, shoots 36 wooden bullets by turning the handle.

Boys can have lots of fun with the "Big Dick" Machine Gun. This is the best and newest toy and is just what every boy wants.

If you will sell just 35 packages of our lovely embossed Easter, St. Patrick and other post-cards at 10 cents a package, we will send you a "Railroad King" Watch, guaranteed for one year, free of all charge, and we will also send you a "Big Dick" Machine Gun and a supply of bullets free of charge if you will shew your watch to your friends and get just five of them to sell our pictures and earn prizes too.

Send us your name and address to-day so you can get your Machine Gun, and your watch quickly. Address:

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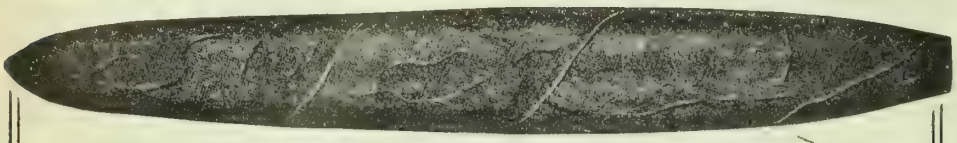

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When ordering state whether you prefer light, dark or medium cigars

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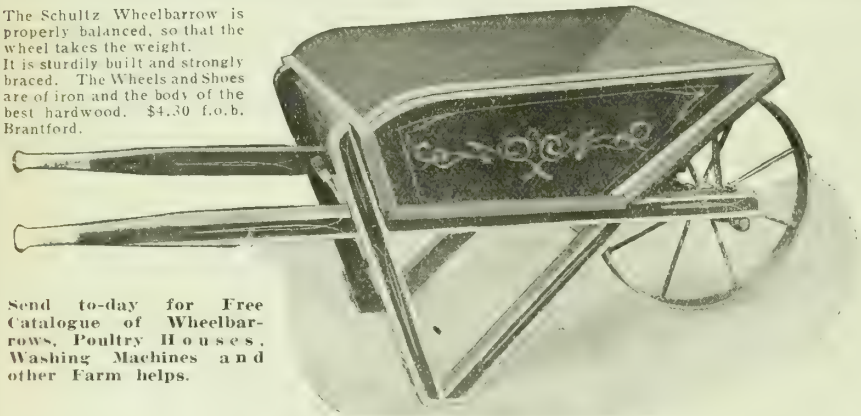
The Schultz Wheelbarrow is properly balanced, so that the wheel takes the weight. It is sturdily built and strongly braced. The Wheels and Shoes are of iron and the body of the best hardwood. $4.30 f.o.b. Brantford.



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Leading architects tell us that our Rug Brick is the most artistic on the market, and are specifying it wherever possible.

Rug and Pressed Brick in Red, Buff, Green, Brown and many variegated colors. Write us for samples and prices.

Milton Pressed Brick Company, Limited

MILTON ONTARIO

Toronto Office, 50 Adelaide St. West, Toronto

prongs of this second series be removed, a tree represented by Plate III., Fig. 3, will be obtained (or that of Plate II., Fig. 4). Hence we may continue the method year

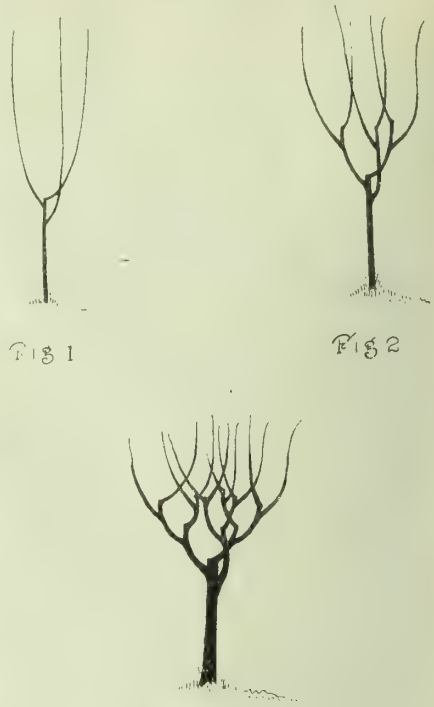

Plate III.

after year, eliminating the central prongs leaving the two laterals and cutting back to the stronger lateral branches which will produce the larger fruit buds and the best quality of fruit.

It may be mentioned here that Plate II. illustrates the result of starting to prune at too late a period, while Plate III. illustrates the proper method of pruning from the beginning.

By continuing this method of pruning the fruit grower has accomplished many good results as follows:

(1) Keeping the tree low-headed.
(2) Strengthening the older wood so that the branches can bear the weight of the fruit.
(3) A partial thinning of the fruit.
(4) Keeping the tree open to allow the sun to color the fruit all over.
(5) The possible tendency of the tree to bear its fruit annually.
(6) The production of a stronger tree to resist fungous diseases.
(7) Certainly a tree much easier to cultivate and work around.
(8) Better fruit and more of the No. 1 sort.

CHEERFUL SURROUNDINGS

Uncle Josh—"Here's a letter from Nephew Harry that's gone to Africa, and says that within twenty rods o' his house there's a family o' laughing hyenas."

His Wife—"Well, I am glad he's got pleasant neighbors, anyway—that's something."—*Tit-Bits.*

GOAT-GETTING

A Missouri paper contained this ad: "For Sale, Cheap—A young female billy-goat for 50c, if taken at once."

ALL QUERIES *must be accompanied by the writer's name and address. If personal answer is required, enclose a 3-cent stamp. Address all correspondence to Grasmere,* THE FARMER'S MAGAZINE, *Toronto, Canada.*

SWEET BRIAR HEDGE.

J.Y.R., British Columbia.—I would like to get information about a hedge called the Sweet Briar, and if it can be obtained in Canada. If it can be grown readily from seed or if the roots must be had and what month would be most suitable here in the West to plant them?

Answer.—The seed of Sweet Briar if sown in the autumn should germinate readily in the spring, and after one season's growth the plants could be put in a nursery row or perhaps in a hedge row. The plants could be set about eighteen inches apart in a single row for a hedge.

While it may not be possible to get the seed of Sweet Briar in Canada any of the larger nursery firms should handle the plants.—W.T.M.

O. P. V. SILAGE

W.P.R., Ontario.—Do you know how oats and peas will do for silage purposes in Ontario?

Answer.—Mr. Cumming, secretary of Agriculture for Nova Scotia, is advocating quite strongly the use of the oats, peas, vetches silage.

SHEEP WORRIED BY DOGS

J.C., Ontario.—Dogs have worried some valuable sheep for me. If I cannot locate the owner of the dog can I collect damages from the township and what amount?

Answer.—The statute as amended in 1916 says that where a person (who has had sheep killed or injured by any dog, the owner of which is not known) satisfies the Council that he has made diligent search and enquiries to ascertain the owner, and that the owner cannot be found, he shall be entitled to claim and receive from the Council a sum equal to the amount of the damage sustained by him. R.S.O., chap. 246, sec. 18, Ontario Statute, chap. 56, sec. 3. It will be the duty of the "sheep valuers" to estimate the real damage you have sustained, and then it will be the duty of the Council to pay you that sum.

TONS IN THE HAY STACK

D.R., Ontario.—In your January issue on first page you show a hay stack 30 yds. long, 11 yds. wide, 30 ft. to ridge which you say approximately contains 300 tons.

We are interested in measuring hay, and if it is not asking too much would like to know how you arrive at 300 tons in this stack.

Answer.—Upon inquiring I find that the stack in question could not possibly contain 300 tons.

Following a system of estimation made by circular 131 of the U.S. Dept. of Agriculture, we multiply together the length, by width, by its "over" or length from ground on one side over the stock to ground on other side, by a decimal given where stack resembles a certain shape. Divide these cubic feet by 581.5 if hay has stood for 30 to 60 days; by 514.9 if it has stood 74 days or more.

Proceeding on this basis, the stack in question would contain

$$\frac{90 \text{ ft.} \times 33 \times 70 \times .28}{514.9 \text{ cu. ft. in 1 ton.}} = 113.5 \text{ tons.}$$

This makes a considerable difference in the estimate. Thanks for your calling our attention to the error.

MARKET GARDENING WITH PIGS AND HENS

E.J.H., Ontario.—My father and myself are thinking of going in for market gardening, and have in mind to purchase five acres to which we will add another five acres if we are successful. In addition to the five acres which we have under consideration, there is included one-half acre on which there is a cottage, well and stable.

On the half acre we hope to keep chickens and pigs, starting in a small way and increasing if we are successful. We have had no market garden experience, nor any experience with pigs, but have been successful in raising chickens in a small way.

Would it be asking too much for you to answer the following questions:

1. *Do you think with our experience we should have a chance of success, gaining our experience from a good book?*
2. *Could you recommend a good book on market gardening, its cost and where obtainable.*
3. *What points should be considered in choosing land which has been in hay for some years, previously being used as farm lands?*
4. *What vegetables would you grow first year on such land?*
5. *What do you consider we should lay*

Free Prize to Girls

Beautiful Doll and Doll Carriage

This lovely Canadian Doll is 16 inches tall and looks just like the picture. She has jointed arms and legs and natural looking head, hands and feet. She has a pretty dress with lace and ribbon trimmings.

The Doll Carriage has a steel frame and wheels, and the seat, back and hood are made of leatherette. It is 24 inches high, just the right size for the big doll. Any girl will be proud to own this lovely Doll and Doll Carriage.

Just send us your name and address and we will send you 30 packages of beautiful, embossed St. Patrick, Easter and other Post Cards to sell at 10 cents a package. When they are sold, send us our money (three dollars) and we will send you the Doll by mail, with all charges prepaid, and we send you the Doll Carriage also just as soon as you show your doll to your friends and get three of them to sell post-cards and earn prizes.

Write to us to-day so you can get your Doll and Doll Carriage quickly.

Homer-Warren Co., Dept. E22, Toronto

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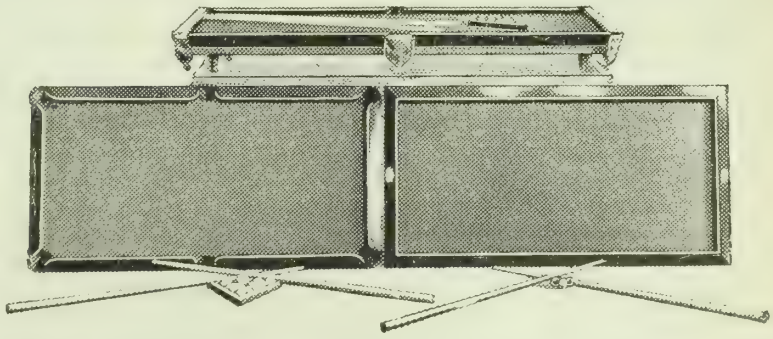

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Full particulars without obligation free on request.

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aside for capital not taking into consideration payments on land and cost of labor?

6. *What implements and buildings would be required?*

Answer.—You have given me a broad subject to answer. However, we tender you the following, which we trust may be of some service. You must remember, of course, that it all depends on the men, for some will succeed where others starve to death. Answering your queries in their order:

Certainly you have a good chance to win, but all experience cannot be gained from books.

There are some excellent books published in the United States. One of these by the Lippincott Company sets forth the principles of raising vegetables for profit and covers the ground very strongly. Price, $1.50. A cheap book is the Biggle Garden Book for 50 cents and gives the beginner a guide to success with his first garden.

In choosing land that has been in hay, knowing your section, you will note the drainage of this is firstly essential. The land should be friable loam and warm. Do not select heavy clay land nor very light sand. .....

This will depend on the character of the soil. Old hay land will suit the gross feeding plants best at first. These are cabbage, potatoes and tomatoes.

Your capital should consist of enough cash to cover cost of equipment and a year's living.

The implements would consist of a one-horse plow, a set of harrows, a disc harrow, a scuffler, a wheel hoe, a seed drill, a wagon. A cheap hen house, a pig pen and a small implement and storage shed will be all you will need for awhile. Build as you find the need.

The chief difficulty will be in the marketing of your products. It would pay you to get all the information you can on the proposed crops from the Agricultural College, to study what the neighbors have made successes at and to go slowly at first. I do not think you can raise many chickens and hogs on a half acre, unless you observe sanitary conditions very carefully. There is undoubtedly money to be made with both. You ought to have summer forage for pigs in order to produce cheaply. If you intend to raise your pigs you must have more land. If you propose to buy young shoats and fatten you might make good on a small lot, but the questions of bedding and proper feeding are important ones.

BUCKWHEAT STRAW FOR BEDDING

D.O.B., New Brunswick. — Please advise me about using buckwheat straw for bedding. I am told that cattle become itchy and lousy when buckwheat straw is used. Is there anything in this rumor?

Answer. — Buckwheat straw should make very satisfactory bedding. While it is coarse there is no reason to believe that it will make cows itchy. Young pigs become scabby in summer when running through the crop, no doubt caused by the continued irritation, but we have never known evil effects to follow bedding in winter. There is nothing in the lousy rumor.

The Alberta Farmers' Co-operative Elevator Co.

LIMITED

A RECORD OF PROGRESS

ORGANIZATION

The Company was incorporated by Special Act of the Legislature of Alberta, on March 23, 1913.

The record made by the Company since incorporation, as reported to each Annual Meeting, is as follows:

Date of Meeting.	No. of Locals	No. of Share-holders	No. of Subscribed Shares	Value of Subscribed Shares	Amount of Paid up Capital Stock
Aug. 19, 1913	46	4,665	7,272	$436,220.00	$ 87,264.00
Oct. 14/15, 1914...	76	8,483	9,428	555,680.00	117,108.00
Nov. 17/18, 1915...	87	9,353	12,127	727,620.00	163,869.24
Nov. 15/17, 1916...	103	11,236	14,472	868,320.00	301,737.60

ELEVATOR DEPARTMENT

Season 1913/14—46 Elevators, 3,774,396 bushels grain handled.
Season 1914/15—76 Elevators, 5,039,100 bushels grain handled.
Season 1915/16—87 Elevators, 19,320,556 bushels grain handled.
Three Months, Season 1916/17—103 Elevators, over 6,000,000 bushels grain handled.

COMMISSION DEPARTMENT

Season 1914/15—1,211,000 bushels grain handled.
Season 1915/16—10,384,156 bushels grain handled.
Three Months, Season 1916/17—Over 2,000,000 bushels grain handled.

LIVESTOCK DEPARTMENT

Organized, April 1, 1914.

Season.	No. of Cars	Quantity of Live Stock: Hogs	Cattle	Sheep	Value
1913/14	141	11,000	....	....	.....
1914/15	763	56,603	1,129	805	$605,809.74
1915/16	513	36,624	3,645	659	878,042.78
Three months, season 1916/17....	258	6,712	3,493	1,502	305,846.58

CO-OPERATIVE SUPPLIES DEPARTMENT

Organized in February, 1914, to handle various commodities for the farmers of Alberta.

The total number of cars handled by this Department since it was established is:—

Season 1913/14	96 cars
Season 1914/15	705 cars
Season 1915/16	998 cars
Three months, season 1916/17.....	1,003 cars

ORGANIZATION

You are interested in our progress. Write for our last Annual Report. We will gladly mail it to you.

GRAIN

Our Grain Department is in charge of experienced grain men and can give you unequalled service.

We carefully check the grading on all cars consigned to us, and are at your disposal for collecting your claims.

LIVE STOCK

We have the largest office on the Calgary Live Stock Yards, and also have an office at the new Live Stock Yards.

Write us for full information and let us handle your next shipment for you.

Would you like a copy of our booklet "The Way to Market, or Guide to Live Stock Shipping"? A postcard will bring you one.

Have you tried the plan of marking your stock and shipping with your neighbor, thereby securing the carlot rate?

We can give you full information how to do this and will make settlement with each shipper, sending him a complete statement showing what his stock brought and the expenses incurred.

The shippers who have already adopted this plan are making money.

Write our Live Stock Department and secure full particulars on this method of selling Live Stock.

CO-OPERATIVE SUPPLIES

Our Co-operative Department is live and up-to-date in its work.

Our volume of business is so big that we can buy to the best advantage.

You get the benefits of such an organization.

Lumber and Building Material—Our mill connections are the best. Write us for prices, etc. You will not be disappointed.

Coal.—We are the largest retail dealers in the Province. Try us when you want results. We sell the best steam coal, as well as domestic.

Hay.—We handle large quantities. If you have any to offer, let us know. If you require any, ask for prices.

Binder Twine.—Our competition has reduced the price. When you require any, get in touch with us.

Flour and Feed.—Our volume in this line is steadily increasing. We handle all the standard brands.

Posts, Barb Wire and Wire Fencing.—Are you figuring on fencing your farm? Get our prices. They will interest you.

Machinery.—Our line is most complete. Prices are attractive. Shipments can be made promptly

The Alberta Farmers' Co-operative Elevator Company, Limited, was organized, and is owned, operated and controlled by farmers.

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HAVE A PRIZE GARDEN YOURSELF THIS SUMMER.

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THE CANADIAN SALT CO. LIMITED 175

Womens' Organizations

Women's Institute gathering at Carlisle, Ont.

URGENT RED CROSS WORK

OF THE many worthy enterprises of Canadian women's organizations, the Red Cross will have first place as long as the war lasts. It seems timely, therefore, to give in our Reference Number the latest word from the headquarters regarding the supplies especially needed for the next few months.

Money.—While the call for goods is as urgent as ever, the need of money becomes more pressing every month. This is required to buy ambulances; to equip and enlarge hospitals; to buy surgical appliances, rubber goods and drugs, and to support the many Canadian prisoners in Germany. The society undertakes to send a weekly parcel to each prisoner with the addition, now, of four pounds of bread. About $5 per month will supply a prisoner with food. *These parcels are known to reach the prisoners regularly.*

Socks.—Of all supplies the most constant and urgent demand is for socks, and good knitters are asked to put all their work on these instead of knitting wristlets, scarves and helmets. The finished sock should measure from the top to the bottom of the heel 14½ inches, length of foot 11½ inches, length of ribbing 4½ inches, length of leg to commencement of heel, 12 inches. Always wash the socks carefully before giving them in.

Hospital Garments.—The following garments are supplied to the sick and wounded and prisoners, and not to the "well" soldiers in camps or in the trenches. The Red Cross Society will supply a set of patterns on request, but the applicant must send ten cents to cover cost of postage.

Pyjamas made of flannelette or light-weight flannel, the trousers to be finished with a tape running-string.

Day shirts of flannel or union flannel with collars.

Dressing gowns of heavy flannel or soft, thick tweed (must be washable). Cotton eiderdown is not advised as it is so inflammable.

Hospital or convalescent suits of blue or gray flannel or of lined white flannelette.

Surgeons coats of heavy bleached factory cotton, and nurses' aprons of white sheeting are also needed in smaller quantities. Surgical shirts are not wanted.

All collars should be at least 16½ inches and should vary up to eighteen inches. Mark all garments with size of collar and tie up each size in a separate parcel, six garments in each.

Comfort Bags are needed in large numbers, as they are sent as gifts to wounded Canadian soldiers in hospitals. These bags are made of khaki, gray or brown cotton, about 18 inches square with a 3 or 4 inch hem at the top. Leave the hem open at both ends and insert a double draw-string, stitching the hem about an inch from the bottom to keep the string in place. On the front of the bag stitch a red cross about 5 inches square. On the back, at the bottom, stitch on a pocket 6 inches deep; and stitch up centre to divide pocket in two. The bag may contain any or all of the following: small hand-towel, wash cloth, toilet soap, tooth brush, small brush and comb, razor, handkerchiefs, boot laces, writing pad, pencil, tobacco, chocolate, spearmint, playing cards, puzzles.

Housewives.—These are required in large numbers as the wounded men almost always come into hospital without these useful articles. Do not make them too elaborate.

Material required: 18 inches of grey or khaki denim or linen, 5½ inches wide, with 1¼ yd. tape or braid for binding.

Cut off about three inches to make second pocket, then turn up one end to form first pocket about three inches deep. Size should then be twelve inches by five and a half inches.

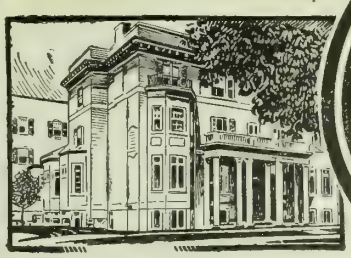
Take strip of flannel 5½ inches by 3 inches and tack it at each end to strip of denim ½-inch above pocket. Then place strip of material ½-inch from flannel opposite pocket, stitch down side nearest flannel to make a second pocket, bind around edges of two pockets and edge of housewife, finish with a dome fastener at opposite end to first pocket, pointing this end.

In first pocket place yarn and thread for darning, pair of boot laces, lead pencil, and blunt-pointed scissors. On flannel, place large darning needles, threaded with grey or khaki yarn, and large sewing needles threaded with grey or khaki thread. On the second pocket pin safety pins, large and medium, and also bachelor buttons. In the second pocket put court plaster or boracic foot powder, with the name and address of the maker of the housewife. When folded, the housewife should measure about 3½ inches across.

Bandages, Binders, etc.—Triangle, "T" and many-tailed bandages are much needed, also triangle slings, but they should be made under the direction of a nurse or doctor. Large sizes are required. Cotton binders, made of two thicknesses of factory cotton stitched together, edges turned in, in size 1¾ yards long by 15 inches wide when finished; also flannel binders, of grey flannel 14 inches wide, 50 to 56 inches long with edges blanket-stitched or lightly oversewn. Pin 6 safety pins in each binder.

Cholera belts, and surgical dressings, including pads, wipes and compresses, and roller bandages are not required.

Continued on page 91.



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You insure your home against fire—perhaps against lightning and burglary. Insure it against wear and weather by painting it with "100% Pure" Paint—the cheapest because it covers more surface per gallon and lasts years longer.

If you are painting this spring, write for a copy of "Town and Country Homes" and "Harmony In Neu-Tone"—our books on home decorating. Mailed free—of course. 103

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Write to-day for 1917 price list on Hatching eggs and Baby chicks. Some nice cockerels left, bred from hens with records from 200 to 260 eggs in their Pullet year. Prices from $3.00 to $10.00 each.

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L. B. 828 - Fonthill, Ontario

Hitching the Prairie to the Water Wagons

Work of the W.C.T.U., Pioneer of Women's Organizations in the West

By LILIAN BEYNON THOMAS

THE WHITE ribbon band is on the march with flags flying and banners unfurled. Alcohol has been driven out of the first trenches and the Women's Christian Temperance Union is reaping the first of the harvest that it has been sowing for years. It was breaking the ground and putting in the first temperance seed, when many of the younger organizations, that did much of the shouting when the victory was won, had never been heard of on the prairie. The W.C.T.U. does not shout when a victory is won, it prays. The pioneer temperance band, said but little on the streets and in public places when its prayers were partly answered in the three prairie provinces so recently, but in little gatherings of workers, heartfelt thanks were sent to the Giver of all good.

The Women's Christian Temperance Union is not merely an organization, it is an institution.

In the little prairie villages and the rural settlements in the early days, there were no church organizations. A young missionary went out between college terms, and it mattered not whether he had been sprinkled or dipped, so long as he held a service on Sunday, to which all might go, to sing the old familiar hymns and hear the Bible read, and feel that they were again part of a Christian community. But with the rush of incoming settlers, the ministers came two or three to a settlement, and went to work to divide the people up into little groups, and start them off to the heavenly city, each on his own selected trail. The W.C.T.U. was the first organization of women that gathered the women back into a united group, to work together for the good of the whole.

The W.C.T.U. succeeded where other organizations would have failed because

Mrs. (Rev.) J. A. McClung, a pioneer W.C.T.U. worker.

Mrs. Alice J. Jamieson, Judge of the Juvenile Court, Calgary, and an enthusiastic temperance worker.

it was Christian, and not only that it was evangelical. Meetings were always opened with prayer and reading the Bible, and all the forms of the meeting were religious in character. Those early settlers took themselves seriously, and anything more frivolous than a prayer meeting for the women would have been frowned upon, but men have always been willing to let women do their praying for them, and they could see no harm in the W.C.T.U., so the women were allowed to join. The temperance plank in their platform sometimes met with opposition from the liquor interests, but the great preponderance of sentiment on the prairie has always been against the liquor traffic, and public opinion has always dealt rather unkindly with those who opposed the women on that score.

The W.C.T.U. was the organization that led the women across from the narrow church organizations to broader religious organizations taking in women of all creeds, and later to organizations of women not religious in character. By working together the women learned not only to respect each other, but they learned their power, and also began to get a vision of how much there was to do in the world. On the prairie, there are now purely secular organizations of women, such as Homemakers' Clubs, and patriotic organizations, and fraternal societies, but when the Women's Christian Temperance Union was first organized in the West, there were none of these, and it was the bridge on which the women crossed into a wider conception of life together.

The Women's Christian Temperance Union was the only kind of an organization that could have done the work, for it led the women from the known to the

unknown, singing familiar hymns, and listening to familiar prayers, and with the well-known environment it was easy to learn the first lesson, which was co-operation. W.C.T.U. women are good co-operators. They are always ready to assist any other organization that is doing useful work. Just let the organization that needs help state its case and it will be sure of a sympathetic hearing, and if the case is good it will get help. Perhaps the help will not be more than a resolution, in its favor, but it will get that, and likely more. So long as the work being done is Christian and Temperance, the W.C.T.U. is interested, and is ready to assist no matter by what name the society desiring the help is known. It is interesting but not logical to note here, that the majority of members of this organization expend their energy working in it and church organizations, seldom taking a leading place in other large organizations.

The work of the W.C.T.U. being co-operative is naturally cosmopolitan in its scope. This organization does not recognize creed, color, caste, or any other of the dividing lines that tend to separate women. It has the outlook of a political party which knows that everyone counts at election time. Souls are all the same color to it, and it works just as hard for the Indian, negro, and the Chinaman as for the whitest white person.

In the conduct of its business the W.C.T.U. is eminently businesslike. So far as I have been able to find out, this organization was the first woman's organization of the West to insist on Parliamentary procedure in the conduct of its meetings. I have heard elderly women in that organization who still wear bonnets and basques, in soft voices and with patient tolerant smiles, calling to order young officers, who were ignorantly trampling over the proper method of putting motions, and conducting the meeting.

The W.C.T.U. works along well-beaten paths. It holds meetings, which stimulate the intellectual life of its members, it has teas which satisfy the social longing of its members; and all the time it is circulating petitions, sending deputations to the Government, scattering literature, opening up homes for girls, introducing text books into schools, holding medal contests, to interest the young, giving prizes to the school children for essays on temperance subjects, and passing resolutions in favor of all good measures, that are being advocated by other organizations. If a deputation to the Government is turned down cold, and a petition is burned in the legislative furnace, before the smoke has cleared away, the women are circulating another petition, and getting ready another deputation. As a society it is seldom stirred to a righteous indignation that would make it go out and upset governments, and force the powers that be to its will. No, in its youth the blood did flow riotously through its veins, and it might have been found in the hurly burly of street rows and political campaigns, but with age it is more inclined to avoid the struggle, and depend on the goodness of people in general to see the justice and rightness of its cause. Education is its slogan, and while it may even yet be tempted at times to force matters, moderation generally prevails.

For years it has been working quietly on the prairie. The chief aim always has been to get prohibition and many and discouraging have been its efforts. But it is

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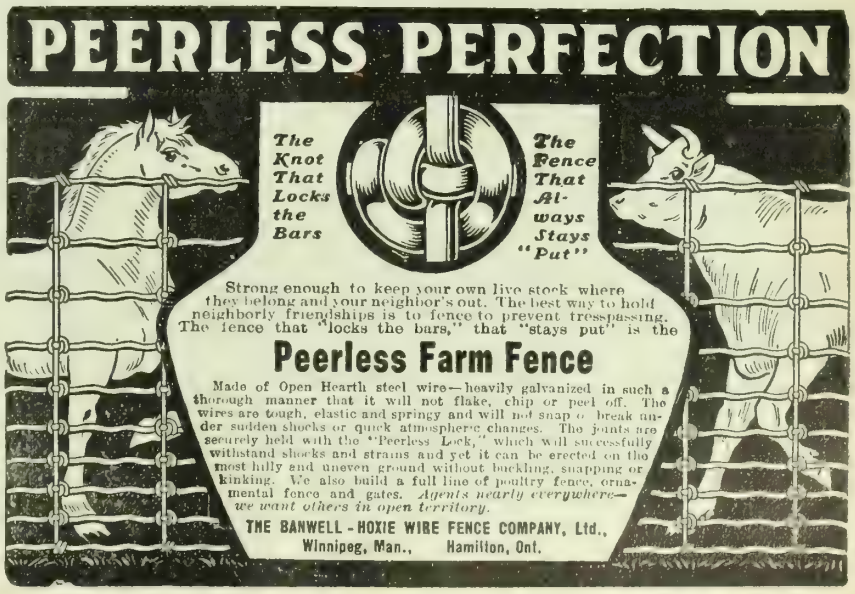


an organization that cannot be discouraged. Defeat merely drives the members to prayer and they return to the attack with renewed faith and hope. If the prairie liquor men had attended the meetings of this organization they would have known that their time was limited. They were up against a force that nothing could withstand for long. The manufacturers of liquor are now the subject of their attack and if they are wise they will begin to dispose of their equipment or turn it into something else. The women will not rest until liquor is not only prohibited, but is not made.

The W.C.T.U. has always had other planks in its platform, but everything else fades into insignificance in comparison to the feeling on the liquor question. The organization many years ago, when to mention votes for women was a disgrace, passed a resolution favoring it. Since that the question has been discussed in practically every Union, and while some did not favor it, the fact that it was favored by some unions had an influence, and all over the prairie these little organizations have been leavening the whole.

The women who later started out to work for the franchise for women, always found a bright spot when they met a W.C.T.U. member. She might not care to work for the franchise for women, she might not even believe in it, but she did realize that there were two sides to the question and she was willing to hear the side of the suffragist. The W.C.T.U. as an organization laid the foundation work for the suffragists and it was well laid and the suffragists have builded well on it.

"I would never depend on the W.C.T.U. women to conduct a whirlwind campaign for anything," an impetuous young woman said impatiently.

"No!" replied an older woman who knew, "but you will conduct your whirlwind campaign on the foundations that the W.C.T.U. has been laying for years."

That the Women's Christian Temperance Union is an institution and not just an organization must be borne in mind. It stands for an ideal, and its work will still be ahead of it when intoxicating liquor is not made, and when the woman's suffrage question is forgotten. Mrs. Louise McKinney, the President of the Alberta Union and Mrs. Duff-Smith, the President of the Manitoba Union, when asked what the organization would do now, that there is prohibition in the provinces and the women have the franchise, replied that there never seemed to be so much to do before.

The education of the voter is one of the burdens that has fallen on that organization as on other women's organizations. The necessary changes in the laws to protect women and children, the introduction into the schools of text books on hygiene and scientific temperance, the education of mothers is their work, and co-operation with other organizations in the progressive work they have planned.

In Alberta, the Unions are offering prizes to the Normal students, high school students, and public school students, for essays on personal hygiene, and scientific temperance as taught in the new text books, on these subjects. Also much work is being done by means of contests, in elocution, which always interest many.

Meat Cuts and Their Uses

A Guide More Especially for the Housekeeper in Buying Meats or in Using the Home Supply

By E. M. MUNRO

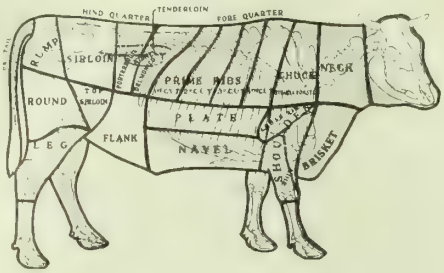


Chart showing the various cuts of beef and their location in the carcase.

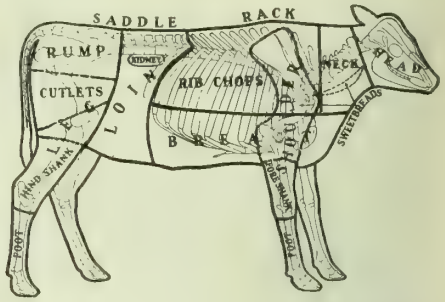


Chart showing the names and location in the carcase of the various cuts of veal.

WHILE the "pattern" for cutting up a meat carcase differs in different localities, the diagram shown here may be taken as representing pretty generally the butcher's cuts throughout the country.

DIVIDING THE BEEF CARCASE—FORE-QUARTER.

The beef carcase is divided first through the back bone into two sides, the hide, head, feet and other offal being removed. Each side is then divided into a fore and hind quarter. Inside the fore-quarter, running from the first rib to about the seventh rib at the breast-bone is a part of the diaphragm called the skirt steak, which is peeled off first. From a point on the rib about twelve inches from the back-bone, a cut is made across the ribs to the shoulder socket, and then between the ninth and tenth ribs to the back-bone. This gives the "set of ribs." The first six of these are "prime" and the last two "chuck-ribs." The prime ribs are divided into two or more rib-cuts and are used for oven roasts, often boned, stuffed with dressing and rolled. The chuck ribs contain some part of the shoulder-blade and are generally coarser and less expensive, but the flavor is good and the chuck roast makes a good purchase where a large and inexpensive cut is desired.

A cut with the knife from the ninth and tenth ribs down to the breast, detaches the plate and the navel. Both of these are used for soup-meat, pot-roasts, for boiling and for corning. The plate is especially good for corning as it has the popular streak of fat and streak of lean.

A continuation of the knife from the tenth rib through the shoulder-socket to the neck removes the "butcher's chuck." Slices of this cut parallel with the ribs make chuck-steaks. They are lean, contain comparatively little bone, are fairly tender, and of good flavor. A cut of one or two ribs will make an inexpensive oven roast. The rest of the chuck, as top-chuck and neck is used for pot-roasts, soups and for corned beef. It is also excellent for braising or casserole cooking with vegetables.

From the upper side of the shoulder-bone is cut the cross-rib. This is excellent for pot-roasts. The strip on the under side of the bone, and on the front of the shin-bone is called the shoulder and is used for stews and soups. The meat on the shin-bone is usually sold on the bone, for making soups. Of the brisket the lean part is sometimes removed from the bones and used for pot-roast and for boiling. Usually, however, the whole piece is used for corning.

HIND-QUARTER CUTS.

The kidney-knob is first removed from the hind quarter, leaving enough suet to cover well the muscle that otherwise would be exposed. The kidney makes a good brown stew. (See the Month's Recipes in this issue). The flank is next cut off as shown in the chart. It has practically no bone and is very fat. The fat is trimmed out and the lean cut up for stewing or boiling. From the inside of the flank a good steak may be taken. This is a good steak to fill with dressing and bake as Mock Duck.

The top sirloin or thick flank, like the cross-rib on the fore-quarter is used for pot-roasts, while the first cuts are served as steaks. A continuation of the knife

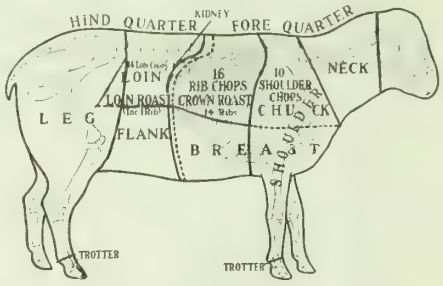


Chart showing the names and location in the carcase of the cuts of lamb and mutton.

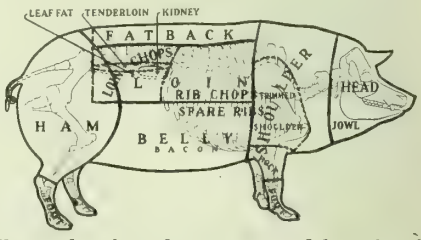
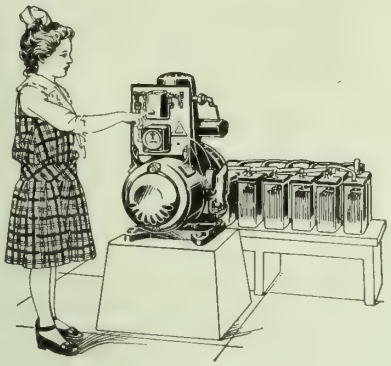


Chart showing the names and location in the carcase of the various pork cuts.

Economical Electricity on your Farm



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Make your farm home the most desirable of all homes. Add the cheerful, labor-saving, economical feature of electricity—save time for your wife and sons—your hired help.

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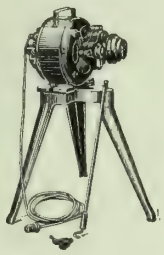

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through the ball and socket joint of the hip to the middle of the sacrum gives the round and the loin. The latter, with the ribs of the fore-quarter constitutes the "prime" meat of a bullock, the part most in demand on account of its tenderness and flavor.

Beginning at the rump-end of the loin, sirloin steaks are cut as far in as the hip or pin-bone. Adjoining the hip-bone are the porter-house or "T" bone steaks, and they are so called so long as they contain the tenderloin or fillet. The steaks or roasts at the rib-end of the loin are the Delmonicos or club steaks, an excellent choice for the small family. The tenderloin, under cut, or fillet, lies under the transverse processes of the loin; these are the little bones that run into the meat from each side of the back-bone. It is often roasted in one piece with dressing, and is more juicy and flavorsome if cut so as to include some of the surrounding suet.

The rump is cut from the round and used for corning or roasting. There is much bone and fat in it, but if a large roast is desired it makes a tender, well-flavored, and economical purchase.

The round is the thigh of the animal; it is stripped off the bullock-bone and divided from the leg at the joint. On the butcher's block it consists of top and bottom round, the latter being the outside of the thigh. The first slices from the top round make very good steak, and the round makes the best beef-tea. The meat is also used for roasts and for Mock Duck, and the end of the top round is sold for pot-roasts and frequently put into brine for corning with the bone removed. The meat on the leg-bone is termed leg, and like the shin on the fore-quarter is used for soups.

VEAL.

The carcase of a calf is divided into quarters, usually with the first rib on the hind quarter. The leg is cut off just below the hip-joint and is used for roasting. Cutlets may be cut from the leg or a thick pieces may be taken for fillet. When a shank (the knuckle) is left after the leg is cut up, it may be used in a stew, but is more often taken for soup-stock. The rump is separated from the loin just before the hip-bone. Both these are roasting pieces, and the latter may be cut into chops.

From the fore-quarter is raised the shoulder, leaving the ribs well covered with meat. The breast which runs the length of the fore-quarter is divided from the ribs by a cut running a little above the connection of the first rib on the fore-quarter with the breast, and the same connection at the last rib near the neck. The bones of the shoulder may be removed and replaced with dressing. The shoulder and the breast are roasted, and the latter is also used for stewing. When used for roasting the rib-bones may be taken from the breast and a "pocket" cut into it for a dressing.

The neck-rack of veal (the neck and the five ribs adjoining) is used for stewing and roasting, a pocket often being cut into this also and a dressing used. The rack (the ribs between the shoulder and the loin) can be roasted, but it is more often cut into chops.

The sweetbreads, a luxury the calf supplies, are the thymus and thyroid glands or the heart-bread and throat-bread. The pancreas or stomach-bread which is the true sweetbread is used but rarely. Sweetbreads spoil very quickly. As soon as they come from the market they should be plunged into cold water and allowed to stand one hour, drained, and put into acidulated salted boiling water and cooked slowly for twenty minutes; again drained and plunged into cold water that they may be kept white and firm. Sweetbreads are always parboiled in this manner for subsequent cooking. They are usually sprinkled with salt and pepper, dredged with flour, brushed with butter and larded or covered with bits of salt pork and baked for twenty-five minutes.

MUTTON AND LAMB.

The pluck (heart, liver and lights) of the sheep and lamb are removed and the carcase divided into sides by splitting down the back-bone. The fore and hind quarters are separated by dividing the side just behind the ribs. The cuts of sheep and lamb are the same, the leg, the loin, the rack consisting of the ribs behind the shoulder, the fore-quarter or chuck which, as generally known, contains four ribs and the breast.

The whole hind-quarter of both mutton and lamb is used as a roast, as is also the whole fore-quarter, especially in the lamb. The leg is cut just before the hip-bone and is used for roasting, and in mutton is also used for boiling.

The loins and the racks of both are used for roasts and for chops. Loin chops are the better purchase if cost and nourishment are considerations, as there is less waste of bone, and they are tender and of good flavor.

The chuck of mutton and lamb is used as a roast and for stewing, if cut in pieces. The shoulder may be used as a roast, or three chops (round-bone shoulder chops) may be cut across the ribs and round shoulder-bone, and then two or three more (rib or blade shoulder-chops) across the ribs. Many people consider the shoulder-chop of excellent value. It depends, however, on the animal and the price. If full-meated, and if the neighborhood demand allows of a reasonable price, the shoulder-chop is excellent for either broiling or casserole use.

The breast and flank of mutton are used for stew, and the breast of lamb for stewing and for braising; the necks are used for stews and broths.

When a saddle of lamb or mutton is required it is necessary to leave the carcass unsplit. The short or loin saddle consists of the two loins joined together, while the English or tail saddle consists of the two loins cut "long" to include the tail and part of the legs as far back as the hip-joints. These cuts are used only for roasting and represent the very finest of mutton roasts. Some of the ribs may be included if a larger saddle is required.

PORK.

The pork cuts are so familiar to most of us that little need be said about them. After the carcase is split down the back bone, the rough ham is taken out and trimmed down in slices to make the round piece which is used fresh, corned or smoked. The tender trimmings are used for frying and broiling.

The pork cuts and their uses are so familiar to most of us that little need be said about them. The chart shows the general method of cutting.

Women's Organizations

Continued from page 84.

Old Linen, Cotton and Flannel.—Old linen and cotton must be boiled before being sent to any Red Cross Branch or to the Head Office. Do not cut up large articles into mouth-wipes. Cut off the seams and hems and fold flat. The larger pieces will make slings. Cases of old cotton and linen must be labelled as follows on the outside: "White cotton and linen only. All contents have been boiled." Flannel must be carefully washed. It must not be packed with cotton and linen, but in separate cases labelled "Washed flannel only." Pieces of clean old flannel and blankets are used for fomentations. The Red Cross cannot receive any other worn articles whatever; nor must old cotton or linen be used for dressings or bandages.

Bedding and Towels.—Huckaback or Turkish towels, 36 by 18 inches, sheets 60 by 90 inches, and pillow slips 28 to 18 inches (both washed before sending) are in constant demand.

Soldiers' Comforts.—There are thousands of Canadian boys overseas who would be forgotten so far as comforts are concerned, if it were not for the parcels from the Canadian War Contingent Association. The things the men like best are toilet articles such as soap, tooth-powder, insect powder, candy, chocolate, cakes, tinned goods, tobacco and smoking requisites, games, books, stationery; socks in unlimited quantities, shirts of khaki or gray flannel or union, without collars, vermin shirts and pants of cheesecloth, small towels, scarves, trench caps and khaki handkerchiefs.

Packing and Shipping Supplies.—Only one kind of article should be packed in each package, *e.g.*, a case of sheets, a case of socks, etc. This saves repacking.

Tie up all articles in dozens or half-dozens, according to size and material.

Shirts with collars must not be packed with shirts without collars. Specify on parcel whether shirts have collars or not.

Socks should be lightly sewn together in pairs, not pinned. Wash carefully before packing.

Articles subject to duty such as tobacco, playing cards, soaps, must be packed in separate parcels.

Lists of contents should be placed inside and outside every parcel and a copy also forwarded by mail to the destination of the package. Lists must include name and address of sender.

Any shipments sent to the Head Office, 77 King St. East, Toronto, should be sent "collect" rather than "prepaid."

Soldiers' comforts are addressed to the Canadian War Contingent and must not exceed 56 pounds in weight.

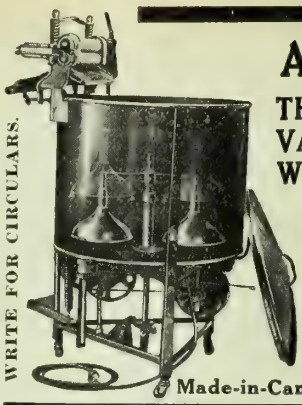
DEMONSTRATION LECTURE COURSES FOR WOMEN'S INSTITUTES

In January fourteen demonstration lecturers under the Institutes Branch of the Department of Agriculture held a conference at Macdonald Institute, Guelph, before opening their short courses at different points throughout Ontario. Up to date the Department has arranged for 21 courses in cooking, 22 in sewing, and 19 in first aid and home nursing.

In New Brunswick under the Direction of Miss Hazel E. Winter, courses are being held at the Agricultural Schools at Woodstock and Sussex. In addition to courses in cooking, sewing, millinery and home nursing, two very interesting courses are being given in home planning and furnishing, and a special class for mothers (others may attend). The programmes of these new courses will be of interest to Institute members in other provinces.

HOUSE PLANNING AND FURNISHING.

Lecture 1.—The House. A discussion of the four types of American domestic architecture and how they are recognized. The materials for



WRITE FOR CIRCULARS.

A Cure for Washtub Exhaustion

THE "EASY" VACUUM WASHER

How often have you longed for release from the back aching drudgery and exhaustion of washing days?

To-day women need no longer cripple their backs and spoil their hands over the old scrub-board when a heavy day's washing can be done so easily, quickly and thoroughly with an "EASY" VACUUM WASHER. The "Easy" operates easily by hand, by belt drive, or by electric power. It is a dandy washer, different from other makes. It does not jerk, tangle or pull on the clothes, but gently forces the water through the clothes by means of air compression and vacuum suction. It makes the dirtiest clothes clean without any effort on your part and without wear and tear on the clothes.

You need not be a washtub slave, marring your appearance and health prematurely, when you could be enjoying the comfort of this wonderful "Easy" Washer that saves time and labor for so little money.

Write us to-day and let us send you full particulars of the different styles of the "Easy" Washer, then you can select the one best for your needs. Write NOW.

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building and the choice of color for houses. Illustrated with pictures and charts of colors for houses and roofs.

Lecture 2. — House-plans. Discussion of convenient house-plans and simple principles which the housewife should understand. Illustrated from blackboard.

Lecture 3.—Decoration. The principles of decoration and their application to walls, furniture and floors. The study of color. Illustrated with colored plates of interiors.

Lecture 4.—Furniture. A short history of old English furniture, Tudor, Jacobean, Dutch influence and Georgian. Their influence on early and modern American furniture. Illustrated with pictures of these types of furniture.

Lecture 5.—The Living-room. Discuss its furniture and arrangement, coloring, lighting and pictures, applying the principles of decoration. Illustrated with samples of wallpaper and hangings, woods, etc.

Lecture 6.—The Dining-room. Discuss furniture and china, walls, etc., applying the principles of decoration. Illustrated as 5.

Lecture 7.—The Bed-room and Bath-room. Discuss furnishings in girls' and boys' rooms, applying the principles of decoration. Illustrated as 5.

Lecture 8.—The Kitchen. Discussion of the arrangement and planning of convenient kitchens and labor-saving devices.

Lecture 9.—Woodwork. The painting and staining of woods and treatment of floors. Illustrated with samples of different woods and their finishes.

Lecture 10.—General review and written examination.

SPECIAL CLASS FOR MOTHERS.

(Others may attend.)

Lecture 1.—Baby Hygiene.
" 2.—Care of the mother before confinement.
" 3.—Preparation for confinement.
" 4.—Making bed and preparing room.
Lecture 5.—Care of mother for first week.
" 6.—Care of baby for three days.
" 7.—Convalescence.
" 8.—Complications following confinement.
" 9.—Sex hygiene.
" 10.—General review and written examination.

SUBJECTS FOR THE MONTHLY PROGRMME.

Programme committees of Women's Institutes, Homemakers' Clubs or other organizations working in the interests of homemaking and country life, may find some suggestions for the year's programmes in the following subjects selected from programmes sent in to us.

New Year Resolutions for the Institute.
Bulbs for Winter Blooming.
Winter Care of Houseplants.
Care of Backyards and Sheds.
Training Our Future Housekeepers.
The Value of Keeping Household Accounts.
Roll Call—Potato Recipes.
Furnishing A Living Room for Comfort.
Hot Supper Dishes for Cold Weather.
List of Menus for One Week in the Month.
Selection of Meats and How to Use Each Cut.
Foods That Help Us in Spring.
Hot Weather Foods.
Preparation of School Lunches.
What Should a Child be Taught Before Going to School.
How to Help Children Prepare for the Examination.
How to Send Children Back to School in Good Condition After a Vacation.
Indoor and Outdoor Games for the Family.
Books We Should Read.
Wholesome Reading for Our Boys and Girls.
Canadian Literature.

RELIEF FOR FIRE SUFFERERS IN NORTHERN ONTARIO

Mrs. Walter Kirstine, Matheson, Ont., wishes to thank the Women's Institutes that have so kindly sent donations of food, clothing and money to the fire sufferers in her district. If any Institute is interested in further helping the families whose homes and possessions have in many cases been entirely wiped out, Mrs. Kirstine would be glad to have them communicate with her.

A Ten-hour Day for the Farmer's Wife Is It Possible?

Continued from page 16.

wife is not likely to be troubled much with the "servant" problem. One of the few ways in which she may get help is to have her sewing done, or to use more ready-to-wear clothes for the children. Unless her work is lightened in other ways, or unless she is particularly fond of sewing this cannot be called an extravagance. And we cannot let the matter go here, without mentioning the co-operative laundry which is working so well in many farming communities in the States, but which has not yet, so far as we know, made its appearance in Canada.

THE CO-OPERATIVE LAUNDRY.

A typical laundry of this kind, run in connection with a co-operative creamery, and of capacity to turn out $400 worth of work per week, costs $3,000 for equipment. The laundry usually employs about eight persons; a superintendent, a forelady and six girls, and as a large amount of work comes from the town as well as from the farms, the scheme has almost invariably proven to be a financial success. The farmers bring their laundry when they bring their cream, and get it on the following trip. All city laundry is delivered C.O.D., while the creamery patrons have their laundry bills deducted from their monthly cream checks. It is almost impossible to estimate what it must mean to a farmer's wife, especially with a large family, to have the work and steam and litter of the weekly wash taken right out of the house and the clothes come back washed, starched and ironed.

EQUIPPING THE HOUSE FOR CONVENIENT HOUSEKEEPING AND COMFORTABLE LIVING.

The co-operative laundry, however, is a matter for the whole community, or at least, a board of shareholders, to consider. The equipment of the individual home should offer less difficulty. It is all right to talk about an inspired attitude, and an efficient system, but it is pretty

difficult to retain either in the environment where some women have to work. It is one thing to work in a bright, cheerful, well-lighted, well-ventilated kitchen with a range that bakes as it should, with plenty dry fuel at hand, water on tap at an enamel sink, roomy cupboards and just the right cooking utensils; and it is quite another thing for a woman to be enthusiastic or systematic where the chimney won't draw and the oven won't bake, where the wood sizzles with sap and perhaps she has to chop it herself. It dampens any woman's spirits to live in a dark, badly ventilated kitchen, to carry water through the rain from a spring some distance from the house, to have to cook with rusting, heavy, awkward utensils, and to have to walk a few hundred unnecessary miles during the year because her kitchen is not laid out with any consideration for convenience. And the cost of equipment necessary to make the farm house as comfortable and convenient for the housekeeper as the most up-to-date city house is not prohibitive in a great many cases. Where the larger investments like power machinery can not be afforded for a while, there are many inexpensive hand tools that go a long way in lightening the woman's work.

THE GASOLINE ENGINE AS A HOUSE SERVANT.

For an outlay of from $40 to $75 the farmer's wife can be provided with a single piece of machinery which will do practically all the mechanical work of the house. Washing, churning, running the cream separator, vacuum cleaner, even the sewing machine if you like, are relieved of all their heaviness. Where a farm is so fortunate as to be supplied with electricity, of course, the power can be applied to all these household conveniences at a very low running cost.

POWER EQUIPPED LAUNDRY.

The washing may be considered about the heaviest piece of work in the average farm home. The dust and soil of the fields may be clean dirt, but it takes hard scrubbing to get it out of clothes. If a power machine is out of the question a ten dollar hand machine will at least do away with the back-breaking rubbing on a board, and the wear on the hands in the hot suds. The machine could usually be set over a drain to eliminate the work of carrying out the dirty water. The cost of equipping a power laundry is not alarming, however, when compared with the outlay for other farm machinery. A gasoline engine to run all the machinery could be bought for $40; a good power washer with wringer attached for $32.50; piping and connections for water, $5; stationary tubs with three compartments, $30. A power mangle could be had for $52, but this would be perhaps the least necessary piece of equipment.

WATER SYSTEM.

This should be one of the first large conveniences to instal. It has been estimated that a practical water system can be put into an eight or ten-room house for a price easily within the reach of the average farmer, to include bathroom and kitchen fixtures. The pressure tank in the cellar is now becoming such a certainty and so reasonable in price that its use should be seriously studied by every farm home, and it will undoubtedly

A Word About Fertilizers

The past year has been more or less an experiment in the Fertilizer line, as for the first time for a number of years the farmer was compelled to farm without the aid of Potash, and we are very glad to state that the results have been very satisfactory indeed, and the credit to a great extent, is due to our farmers using a Fertilizer to meet the situation. **The progressive farmer realizes that Fertilizer is a necessity to produce results, and the food for the plants is just as essential as food for the animals.**

Conditions to-day require that each farmer use the very best methods available to the end that Canada and the Allies may have abundant supply of food.

Tillage We cannot say too much in favor of Tillage, and we wish to impress, on the farmer, the great importance of this first step, to have the soil well cultivated.

Seed The Best Seed is the cheapest. Do not waste labor and Fertilizer on poor seed.

Fertilizer The most important of all is Fertilizer, and this can be supplied by using

Nova Scotia Fertilizer Brands

Manufactured in Canada by a Canadian concern, from the very best materials procurable, including Bone, Tankage, Fish and Dried Blood. Our Brands are carefully blended to furnish you a Fertilizer suitable for any crop. If you have any particular problems to solve we shall be very glad to give you the benefit of our forty years' experience, if you advise us concerning the crop you intend to raise, the type of soil you expect to plant, and something of its previous history.

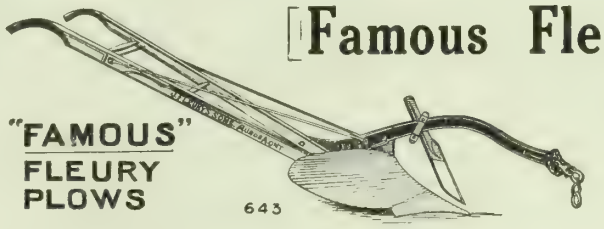
Is Your Soil Sour?

If your Soil is Sour, try our LIME PHOSPHATE. It sweetens the soil and liberates the Plant Food. A good application of our Lime Phosphate will give the farmer full benefit of all the elements his soil contains. **Try a ton,** the price is low, and the results will surprise you.

Full particulars of our Fertilizers will be sent on request, and the benefit of our forty years' experience is at your service. Write us about your soil problems. **There is a local agent near you, get in touch with him for your requirement for 1917.**

Nova Scotia Fertilizer Company
HALIFAX, NOVA SCOTIA

Famous Fleury Plows



are sold at a REASONABLE PRICE. There are other Plows—**not** so GOOD—sold at a little less price. In the case of MOST other things, PRICE is a measure of the real value. So in Plows. Famous Fleury Plows LEAD ALL OTHER Walking Plows in LIGHTNESS of DRAUGHT, EASE of HOLDING—in QUALITY of WORK in the field. SCORES of THOUSANDS of Famous Fleury Plows have been sold and bought and used; many men have followed a Famous Fleury Plow for 30 to 40 years, and declare "There are no Plows like Fleury's." Special Plow Folder on request.

J. FLEURY'S SONS, AURORA, ONTARIO, Medals and Diplomas, World's Fairs, Chicago and Paris

last many years. A cheaper system is one having force pump in the kitchen sink.

HEATING SYSTEM.

It is cheaper to heat an eight-room house with a furnace than with stoves, to say nothing of the more constant temperature and the saving in labor and dirt. A hot-air furnace to heat six or ten-room house can be installed for $200 to $250. A steam or hot-water system would cost probably one-half more to instal, but the hot water requires a little less fuel and gives even better satisfaction in windy localities.

LIGHTING SYSTEMS.

The daily care and the inconvenience of oil lamps argues strongly for a better system of lighting. In localities where electricity or gas is available the problem is easily solved. In other districts gasoline and acetylene may be used with excellent results. Quoting from a United States bulletin: "In 1906, 142,000 buildings were lighted with this gas. The daily cost of acetylene gas is rather lower than kerosene with carbide at 5¼ cents per pound and kerosene at 25 cents a gallon. Acetylene gas is not dangerous if cared for by a responsible person, in reality it is not so dangerous as kerosene; the gas is not poisonous if taken into the lungs by accident. If a standard carbide feed generator is used, there can be no danger, as a safety pipe is used."

THE VACUUM CLEANER.

The most exacting housekeeper will find the vacuum cleaner more thorough than any amount of sweeping or beating. What is more important, sweeping especially of carpets and rugs, is considered by physicians to be one of the hardest branches of housework, on account of the twisting motion that goes with it. In the running of even a hand vacuum cleaner the movement used is just straight pushing; the health and comfort of the worker is also guarded by the vacuum cleaner gathering dust and holding it instead of stirring it up in the air to be inhaled. Hand vacuum cleaners can be bought for $10 to $30; electric for $125; and those operated by a gasoline engine for $75.

REFRIGERATORS.

No dairy farmer would think of getting along through the summer without an ice supply. The ice costs nothing except the labor of harvesting it, so the supply is usually abundant. Only a housekeeper knows what a luxury it is to have ice in the house, but the trouble is that many farm homes have no refrigerator. If nothing better can be afforded, a home-made ice chest made of two layers of wood filled in between with sawdust, the chest lined with galvanized iron; and a shelf put in above the ice compartment, works very well.

ELECTRIC, ALCOHOL OR GASOLINE IRON.

The systematic housekeeper can sort out from the weekly wash a great many things like everyday sheets, towels, underwear, etc., that need not be ironed. There will still be left a lot of clothes which must be ironed, however, and the quantity increases with the warm weather, when the kitchen becomes unbearably hot with an "ironing fire." An electric, alcohol or gasoline iron besides doing away with the heat of the range eliminates the work of keeping up a fire, and of making trips to and from the stove for a fresh iron. Wherever we have electric light we can have an electric iron and it pays for itself in a very short time.

THE PRACTICAL DISH WASHER.

There is now on the market a satisfactory dish washer costing from $18 to $20 and capable of washing the dishes for a family of eight or ten persons in from five to ten minutes. It is so arranged that the dishes can be packed in it, and by a few turns of a crank the hot soap water is forced over them. This is drained off and the dishes are rinsed in the same way with clear boiling water, and allowed to drain in the rack. They require little or no drying with the towel. A machine of this kind saves an endless amount of work where there is a large family or where extra hands are boarded in the house during harvest and busy seasons.

OTHER HOUSEHOLD SERVANTS.

Cooking utensils which are light, durable and easily kept clean, whether they be enamel, granite or aluminum ware, will make the housekeeper's day shorter and easier than if she has to work with a makeshift equipment. The fireless cooker, steam cooker, and coal oil or gasoline stove rid the hot weather cooking of much of its discomfort. The dinner-waggon to carry food and dishes to and from the kitchen and dining room, and the dumb-

Front view
Auto suit or
Union suit

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Manufacturers of

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The above are made in plain indigo blue and fast black denims, Stifel stripe and Khaki Drills.

Service Coats, Machinists' Aprons, Carpenters' Aprons, and our famous Auto Suits are all made in genuine Khaki Drill.

Every yard of denim we are using in the *Brotherhood* garments is the same high-grade denim we have always used. No substitutes. No "fill-ins." When you buy *Brotherhoods* you get the best.

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The Oldest Red Yards West of New York

I have devoted my entire time to the poultry business since 1882—35 years. I have bred Rhode Island Reds longer than any other breeder west of New York. My stock is the best money, experience and careful breeding can produce. My prices for eggs and chickens are less than half what others charge for same quality. My FREE Red Book tells what I do and how I do it. Satisfaction or money back.

Canadian Trade a Specialty

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waiter to save climbing cellar stairs are servants whose value is appreciated more the longer you have them. The mop wringer attached to the pail, which makes it possible to clean a floor without putting the hands into the water is an inexpensive help that should be in every farm home; and cement walks outside the house will save a lot of floor cleaning by keeping the dirt from getting in.

Legislation for the eight-hour day will never be of any help to the housekeeper. She doesn't need to have any law passed to shorten her hours, but she does need the co-operation of her husband to get a labor-saving equipment installed. It will give her more time for the many little family ministrations which can not be counted in the housekeeping programme, but which hold an important place in her wifehood and motherhood.

TUBERCULOSIS OF CATTLE

This is a disease of mal-nutrition and mal-assimilation and may be said to be most peculiar to the bovine (cattle) species; experiments have shown that it can be produced by inoculation or feeding animals with the morbid products; tuberculosis being formed in the lungs and other viscera of animals experimented on, the disposition of this malady not being confined to any particular organ.

This constitutional taint has been observed in different breeds of cattle, as associated with a particular physical formation. Sex would appear to be the predisposing element in its production, as cows are by far the most frequently affected when kept solely for dairy purposes—constantly confined in stables which are not always well ventilated or clean, deprived of exercise, and drained of milk in large quantities. Indeed, it is a matter of observation that damp stables with bad hygienic surroundings are a prolific cause for the spread of infectious disease. The progress of tuberculosis is sometimes acute, but it is most frequently chronic, and its symptoms in the milder cases are not always well defined. The first perceptible signs are generally dullness, with less activity and energy. The milk of dairy cows is deficient in quality, it is more watery, bluish-tinted and contains a larger proportion of alkaline salts, and is less rich in nitrogenous matters than in health, indicating that assimilation is defective and the animal's system is slowly but surely wasting away from the insidiousness of the malady.

When the lungs are the seat of the malady there is emitted a dry, though feeble cough that comes on when the animal is passing from a hot to a cold atmosphere, or vice versa, indicating that the mucous membranes of the air-passages are congested and irritable; in other instances the lungs may be free from any traces of tuberculosis, but have been discovered in other organs—as the liver, kidney, lymphatic glands and viscera. When the animal is thus affected the symptoms are tenderness over the loins, more or less stiffness in action and a sluggish unthrifty appearance. In order to make a correct diagnosis, the suspected animal should be inoculated with the tuberculosis test, which has been considered by the most expert veterinarians to be the best diagnostic agent in discovering accurately if tuberculosis exists in any of the cattle in the suspected herd.

Livestock owners, and breeders of cattle cannot afford to take the risk of breeding their cows, or heifers, to bulls that may be unsound from tuberculosis. A sire should be tested with a tuberculosis test twice a year and should the temperature show a reaction during any of the tests the bull should be disqualified for future service. The dairy cows, and highly bred dams kept for breeding purposes, should be tested with the tuberculine test twice a year and if any of them re-act after the test is properly made, they should be removed from the main herd. —J. G. Stewart, V.S.

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Celery as a Market Crop

By E. I. FARRINGTON

CELERY can be grown with greater ease on muck land than on any kind of soil, but the quality is not as good as when the soil is a sandy loam and the crop will not keep so long. Even a clay soil will grow good celery if stuffed with manure. This is a very heavy feeding vegetable but muck soils usually contain a large amount of nitrogen when first worked and only potash and phosphates need be used. The reverse is likely to be true when the soil is sandy or clay. Then a 4-7-8 brand of fertilizer is required. Now, when potash is hard to get, it will pay to use lime freely, as lime tends to release the potash already stored in the soil.

Even common salt is likely to be of value, as it accomplishes the same purpose. Some fertilizer experts are recommending the free use of salt under present conditions, at least when it can be bought for not much over three dollars a ton. As a matter of fact, almost all the celery growers in the vicinity of Kalamazoo, Mich., have been applying salt at the rate of from 600 to 800 pounds an acre for many years. A part of the salt is broadcast in the spring after the ground has been plowed and is harrowed into the soil a week or so before the first plants are set out. More salt is applied between the rows early in July after the first crop has been harvested, being designed to benefit the second crop then coming along. If a third crop is grown an additional salting is sometimes given the field.

The Kalamazoo growers claim that the salt makes the plants more brittle and tender, although they seem unable to give any very clear explanation of the reason why. Experts have come to believe, though, or so it would appear, that salt is worth using when potash is high, for celery and for many other crops. It is a well known fact that many old-time farmers in Nova Scotia and New Brunswick always made it a practice to salt their manure, and it may be that there was more reason for the practice than the present generation of agriculturists supposed.

Salt, however, will not take the place of lime, for the latter has other purposes than the liberation of potash. It is only of recent years that farmers in the Dominion have come to realize that they were greatly reducing the potential yield of their fields by neglecting to use lime. There are thousands of acres of sour land in Canada and on some of them lime is needed even more than fertilizer. This applies to market gardens where celery is grown, too. The use of lime would often make it possible to reduce the amount of stable manure and thus cut out the cost of production.

Stable manure seems indispensable in the growing of celery and 25 tons to the acre is considered a fair amount to use, but as much as 40 may be spread when celery is grown on the same fields continuously. Dominion market growers understand that on their soil it is important to practice rotation, especially when a leguminous crop like peas or beans can be alternated with the celery. Humus is needed in abundance, which is one reason for using stable manure in generous quantities. If new land is being prepared for celery, it will pay to crop potatoes or some other cultivated crop one season in order to get it as free from weeds as possible and in good friable condition. The occasional plowing in of green crops is essential when manure cannot be used in abundance.

For the early crop seeds are started under glass, the purpose being to have the plants the right size to set out as soon as the weather will permit. The first of March is a common date for sowing seed in many sections, Hotbeds or greenhouses may be used. It is a common plan in the Kalamazoo section of Michigan to build little greenhouses heated with stoves for this purpose. One celery grower gives the following directions for starting the seeds in flats:

"Take a box not over two inches deep and sift in one inch of sharp sand or sifted coal ashes. Then fill the box with good garden soil, preferably sifted. Press down and level. Sow the seeds broadcast and sift on a little more loam, covering the seed less than one-eighth inch. Keep moist and warm but not wet until the plants appear, which will be in from one to three weeks, according to the temperature. Keep the plants growing and prick out into a hotbed or cold frame, setting about 300 plants to the sash. The plants should be large enough to prick out by the 10th of April if started the first of March and ready to set in the field by the 10th of May."

It is estimated that an ounce of seed will give 10,000 plants if it germinates fairly well. Experience is needed to know just how thick to sow the seed. Crowding is certain to result in the production of many poor plants.

The late crop can be started by sowing the seeds in the open either in late March or in April, according to location and weather conditions. Some growers sow the seed where the plants are to remain, while others transplant once or even twice. When grown on deep muck lands, transplanting may not be needed, but on other soils it helps the crop. If left alone, the plants will make very long tap roots, but when transplanted those long roots are broken off and a more fibrous root system is produced, making for an earlier crop. Many times it is easier to transplant than to thin.

Plenty of water is needed when the plants are to be set in the field from the hotbed or transplanted from an open-air seed bed. And it is needed before the plants are placed in the ground even more than it is afterwards. Some growers run water on to the celery field for half a day if necessary to thoroughly soak the ground before the plants go into it. It is considered wise to dig a comparatively few plants at a time or else to place the roots in water, especially when the weather is bright and dry. Of course it is advantageous to set the plants just before a rain, but busy market gardeners have to do the work when they have the time, and are not always able even to choose the late afternoon, as is often advised. On farms in Michigan where irrigation is not practised it is a common plan to scuff out a shallow furrow with one foot as the planter walks along and to wet the earth with a large watering can just before the plants are set out. In any event, it is desirable to get the plants into the ground as soon as possible after the furrows have been opened, before the soil has an opportunity to dry out. It is very poor policy to open several long furrows before planting is started.

If the plants are taller than five inches when they are set out, it is advisable to cut them back. The crowns should be barely covered and care must be taken, especially on clay soils, not to get any earth into the hearts of the plants, although the plants are commonly set so that they are just below the soil level.

Paris Golden self-blanching is the favorite variety in Canada, as it is, indeed, all over the continent. It is the choice of growers in Florida and California, as well as those in the eastern and northern States. It is usually blanched with boards or with paper, prepared strips of the latter being used to some extent. A new kind of blancher is in the form of a paper tube which is slipped over the plant with the aid of a simple metal device. It is easy to use and seems very satisfactory.

Many growers prefer to use boards which are 12 feet long and ten inches wide, for the reason that these boards may afterwards be utilized in constructing temporary storage pits. They are set in place by men working in pairs, and are held upright by 10-inch iron hooks or by cleats nailed lightly to each board. In from 10 days to three weeks, according to the weather, the celery is ready for market. If the plan of banking with earth is followed in the summer, it is pretty likely to make the plants rust, but it is a very desirable plan for blanching the winter crop, usually, Giant Pascal, as it protects the plants from light frosts and produces a particularly fine flavor.

Celery to be stored will blanch in the pit. It is plowed out and the outside leaves trimmed off. Then it is carried to the pit and set in rows about three inches apart, the earth being well firmed about the roots. The pit is roughly made of boards arranged so as to form a double pitch roof, and manure is often thrown over it when cold weather comes. Such a pit may be a hundred feet long, but there is more or less risk in storing celery, even when it is held only until Christmas and comparatively few growers attempt it on a large scale.

It has been a common practice to plow in the celery trimmings left in the field, but market gardeners are coming to believe that it is much safer to clean them up and destroy them or throw them on the compost heap. Sanitation in the market garden is receiving more attention than ever before. Yet it must be admitted that experience shows good crops are often grown where conditions seemed unfavorable and failures are encountered when the soil seems perfectly clean.

When celery is prepared for market the outer leaves are trimmed off and the roots cut to a rough conical shape. Then they are well washed and tied into bunches. Some markets demand a bunch of solid hearts, made by putting two or three roots together. Around Boston the roots are held together by nails thrust through them, but some customers object to this plan.

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The Sarnia Fence Company broke up the Fence Combine and brought the price of fence down fifty per cent. We revolutionized the fence business of Canada with our Direct from Factory to Farm Policy.

We are selling Sarnia Fence delivered in Old Ontario for less money per pound than the market price of raw material at the Pittsburg mills.

We are able to make this close price on only a limited quantity, as it will be necessary to advance the price at the expiration of our present control.

Notice—For Prices Delivered in New Ontario and Maritime Provinces, add to the Prices Listed Below 3c Per Rod on Fence, 25c on Gates and Stretcher, 10c on Staples and Brace Wire.

WE SET THE PRICE, OTHERS DEVOTE THEIR ENERGY TO TRY TO MEET OUR PRICES.	Price in OldOntario before Mar. 1st	Price in OldOntario after Mar. 1st
5-40-0 HORSE AND CATTLE FENCE. Has 5 line wires, 40 in. high, 9 stays to the rod, all No. 9 Hard steel wire, spacing 10, 10, 10, 10. Weight per rod 6½ lbs. Price per rod	28c	30c
6-40-0 HORSE AND CATTLE FENCE. Has 6 line wires, 40 in. high, 9 stays to the rod, all No. 9 Hard steel wire, spacing 7, 7, 8, 9, 9. Weight per rod 7½ lbs. Price per rod	32c	34c
7-40-0 HORSE, CATTLE AND SHEEP FENCE. Has 7 line wires, 40 in. high, 9 stays to the rod, all No. 9 Hard steel wire, spacing 5, 6, 6, 7, 7½, 8½. Weight per rod 8½ lbs. Price per rod	36c	38c
7-48-0 HORSE AND CATTLE FENCE. Has 7 line wires, 48 in. high, 9 stays to the rod, all No. 9 Hard steel wire, spacing 5, 6, 7, 9, 10, 11. Weight per rod, 9 lbs. Price per rod	38c	40c
8-40 GENERAL STOCK FENCE. Has 8 line wires, 40 in. high, 12 stays to the rod, all No. 9 Hard steel wire, spacing 5, 6, 6, 6, 6, 6, 6½. Weight per rod 10½ lbs. Price per rod	45c	47c
8-48 GENERAL STOCK FENCE. Has 8 line wires, 48 in. high, 12 stays to the rod, all No. 9 Hard steel wire, spacing 4, 5, 6, 7, 8, 9, 9. Weight per rod 11 lbs. Price per rod	48c	51c
9-48-0 GENERAL STOCK FENCE. Has 9 line wires, 48 in. high, 9 stays to the rod, all No. 9 Hard steel wire, spacing 3, 4, 5, 5, 6, 8, 8, 9. Weight per rod 11 lbs. Price per rod	48c	51c
9-48-0S SPECIAL HORSE AND CATTLE FENCE. Has 9 line wires, 48 in. high, 9 stays to the rod, all No. 9 Hard steel wire, spacing 6, 6, 6, 6, 6, 6, 6. Weight per rod, 11 lbs.	48c	51c
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Vol. X. PUBLICATION OFFICE: TORONTO, MARCH, 1917 No. 5

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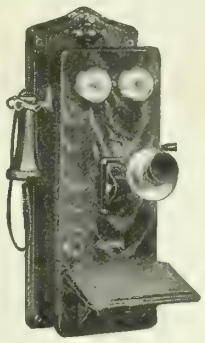

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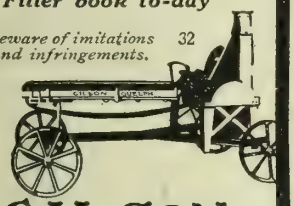

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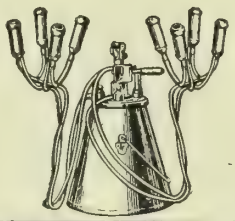

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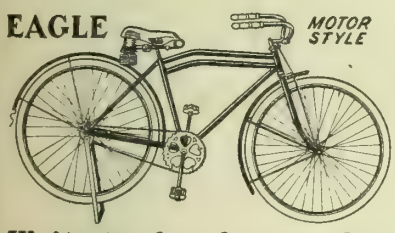

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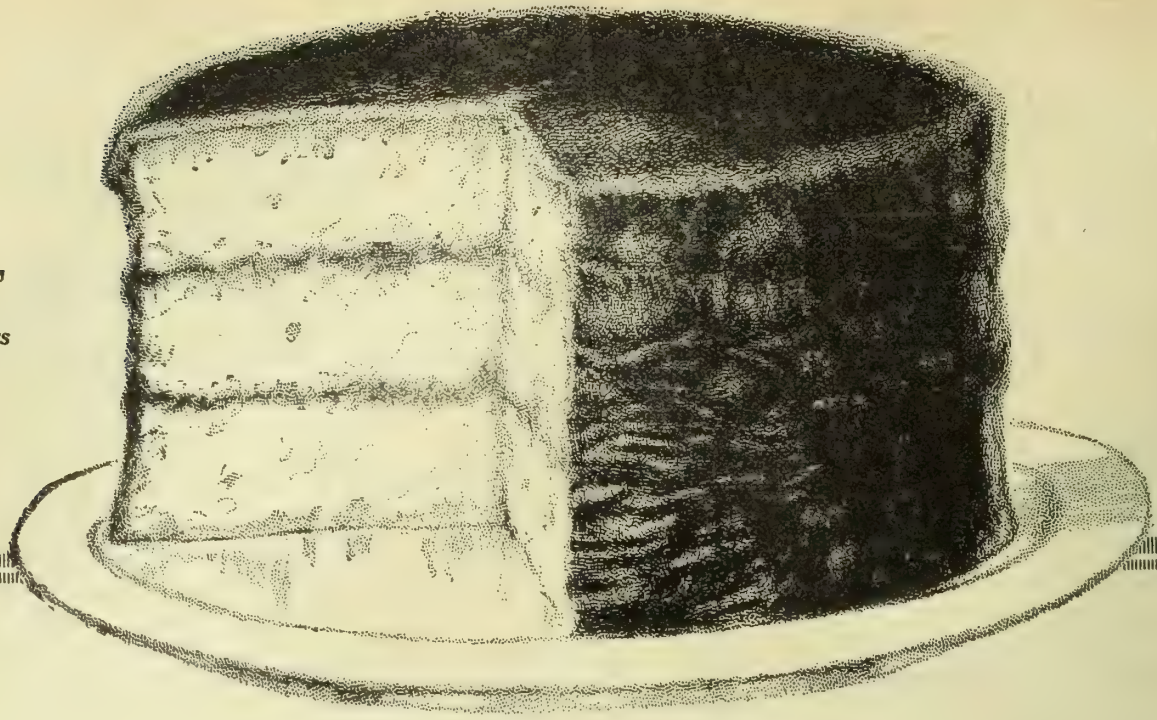

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THE FARMER'S MAGAZINE

J. B. MACLEAN, President — F. M. CHAPMAN, B.A., Man. Editor
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The FARMER'S MAGAZINE

Volume X TORONTO, MARCH, 1917 Number 5

A Leader Among Livestock Men

The Personality of Prof. George E. Day, of the O.A.C., Guelph, is a Strong Link Between Practice and Theory

By W. A. CRAICK

IN these modern days when migration seems to have become a law of life it is rather unusual to come across a man who has made a name for himself almost within sight of his birthplace. In older countries this is more frequently the case, but in Canada the common question, when a person rises to prominence is, "Where did he come from originally?" inferring that he must have been born and brought up, elsewhere. Indeed, it is quite safe to say that in ninety-nine cases out of a hundred, the personage in question migrated to his present place of abode from some other country, province or district. Look over the biographies of any list of public men and the truth of this assertion is apparent.

Professor George Day, of Guelph, belongs to the exceptional class. He is known to-day far and wide as an authority on animal husbandry. He is certainly one of the most popular professors at the O.A.C., with an admiring following all over the province. Yet he didn't come to his present seat of influence and authority from any greater distance than the Township of Guelph. He is a Wellington County man by birth and has lived all his life within its borders. Though his parents were living in Guelph Township when he was born, their removal a short time after to the neighboring Township of Eramosa, constitutes the Professor an old boy of that famous municipality.

The future professor lived on the parental farm until he was twenty-one, when he took the notion, as did so many young men of that period, of becoming a dominie. He accordingly attended the Collegiate in Guelph, got his certificate, took the model school course and went to teaching. He did not stick at it very long. In his case, there was a certain amount of distaste in having to deal with children. He much preferred association with more mature minds. As teaching was in a sense his forte, he cast about for some opening that would give him the desired change. This he thought he saw in the Ontario Agricultural College. To take the course there and qualify himself for becoming a teacher of agricultural science, was a happy thought and in the fall of 1891 he entered College as a student.

A snapshot of Prof. Day taken at the Intercounty Judging Contest finals at the Union Stock Yards, Toronto.

THE EARLY DAYS AT GUELPH.

The O.A.C., of the early nineties was a very different place in many respects from the O. A. C., of to-day. Buildings were few, equipment was scanty and the work was carried on by a very limited staff. Ever since then it has been a case of sub-division. Professor Day started out in 1893, as a lecturer, teaching a wide variety of subjects. By degrees with the addition of assistants and a breaking up of courses, his sphere of activity has narrowed down, while his authority has increased. He is now and has been for a good many years, Professor of Animal Husbandry and Superintendent of the College Farm, having jurisdiction over all its activities with the exception of the experimental plots, which are in the hands of Professor Zavitz. Under him, there are now an associate professor, a lecturer and a specialist in farm management, offering quite a contrast to the time when he had not only to lecture on animal husbandry but to teach bookkeeping, arithmetic and political economy as well.

If the Professor has a specialty at all, it may be said to be swine. Ever since the Hon. John Dryden started his bacon hog campaign back in the nineties, Mr. Day has devoted a good deal of attention to the subject and has written more about hogs than anything else. Two years ago he published a book on "Productive Swine Husbandry" in an important American series of agricultural texts and this has been adopted very generally as an authoritative work. Apart from this he gets a good deal of literary work to do in connection with the flood of enquiries for information and advice which comes in from all parts of the country, especially in the winter months. He has

a big reputation as an authority on animal husbandry and being an obliging sort of fellow he does a good deal in this direction.

DRYDEN STARTED THE BACON HOG.

"Live stock differs appreciably from other farm products," said Professor Day, in reply to a question as to what the O. A. C., was doing to improve the breed of cattle, sheep and hogs. "It does not lend itself to improvement so rapidly as grain and roots. The latter breed comparatively true to type, but with the former there are variations which are frequently of a most disappointing character.

"We have two main objects in view on the College farm in keeping live stock. The first is for investigation purposes. The second is for the training of students in judging. In the latter connection *a good many people hold a false idea, considering the judging of animals only from the fall fair standpoint.* That of course is merely an incidental. *To be*

Continued on page 14.

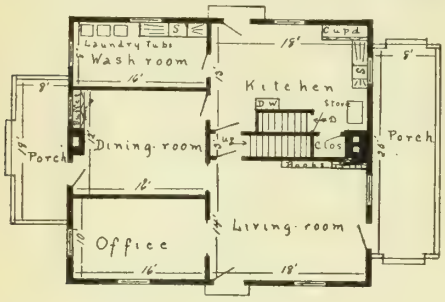
Building Hominess Into a House

An Attractive Style for Building or for Remodelling a Plain Square House

By GENEVIEVE

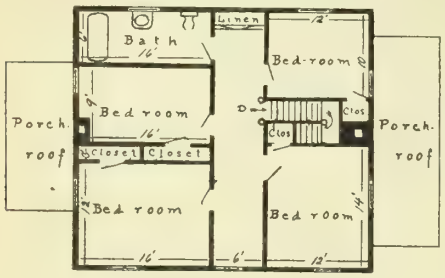
THE HOUSE shown here is one of the homiest types for farm building at moderate cost. It also illustrates an attractive style for remodelling the plain square house without destroying the quaint, old-fashioned appearance. One of the greatest defects of the average plain square farm house was that it was built only one, or one and a half storeys high, leaving very little room upstairs. This is overcome by putting on a hip-roof, and letting in the light through three dormer windows. Instead of running a porch across the front, the front door opens directly into the yard, with a broad stone door-step. Here again the old-fashioned, hospitable country air of the place is retained, and the most delightful out-door sitting rooms are provided in screened side-porches at the end of the house.

The interior arrangement is compact and convenient. Instead of wasting space in a front hall, the front door opens



Ground Floor Lay-out.

directly into the living-room, and the stairway goes up between this room and the kitchen. Having a door opening from each of these rooms to a small square space at the foot of the stairs, we have about the same privacy as if there were both a front and back stairway. The stairs turn at a landing high enough to accommodate a cellar door beneath, and leaving a space at the end to be fitted for



Lay-out of Rooms Upstairs.

A good style for building or for remodelling a plain square farm house.

a closet for brooms, brushes, mops and such kitchen tools. The position of the chimney makes it easy to have a fireplace in the living-room, and at the same time to give the range a convenient place in the kitchen.

If it is desired to have a door opening from the kitchen to the side porch the stove could be moved around against the wall of the cellar-way. It would not be quite as convenient to the sink then. Following the regular principle of convenience the drainboard is placed at the left of the sink, and not a step away is the cupboard. A short board for stacking dishes, etc., at the right of the sink completes the arrangement for cutting out all unnecessary work in the dishwashing process. The dumb-waiter is another convenience to be noted when we consider that every time a woman takes a step up in stair climbing she has to actually lift her own weight a very good exercise for reducing flesh, but not at all desirable for the woman who does the work of a farm home single-handed.

The wash-room with laundry tubs and sink where the men can wash-up also lightens the housework by making it easier to keep the kitchen clean. Having a permanent place like this for the laundry tubs and washing-machine, arrangements can be made to have the water piped in and the dirty water carried away through a drain, doing away with the heavy carrying which makes up a principal part of the labor of wash-day.

The lay out of the rooms with relation to one another gives the best arrangement for convenience and utility. The kitchen opens directly into the dining room; and the doors leading from the living-room to the dining-room and office slide into the wall leaving wide openings and giving a pleasing effect of roominess. This is very desirable in a home where little crowds of people are entertained sometimes, and every farm home, especially where there are young people should be a place where little gatherings of people can have a good time.

The screened porches at the sides of the house are among its most practical as well as attractive features. Closed in with wire fly-screening through the summer the porch makes a delightful dining-room on the hottest days, or if there is a baby in the house just learning to travel and falling down steps, the place can be turned into an ideal day nursery where he can be penned in, comparatively safe from accidents or where he can have a genuine out-door sleep protected from the dangerous visits of flies.

Upstairs we have four good-sized bedrooms and a bathroom. The bathroom being directly over the washroom, gives a compact plumbing system. Clothes closets have been put in, in connection with each bedroom without cutting up the rooms. The diagram explains the layout of the rooms on this floor.

Financing Good Roads:

By F. M. CHAPMAN

The System of Selling Bonds Covering the Estimated Life of the Road, is the Most Equitable Way of Paying for Permanent Improvements

HOW TO finance our road improvements in Canada is one of the first things every municipality ought to solve, in the problem of better roads for Canada. Heretofore we have never financed our roads as we ought to. What we have done has been a mere floundering between a theory of wished for things and a battered-up clash of county roads and statute labor nonsense.

We have no federal co-ordination of highways. Our provincial organizations are working largely in the dark, a hotchpotch of systems prevails. And perhaps the educational value of this indecisive work will bring the matter to a head. Indeed, the need is becoming emphasized. With the use of autos and motors by the rural population more interested and thoughtful eyes are being turned towards the question. The future is beginning to assume a new hopefulness.

Nearly all the provinces now have Highways Departments. Definite systems of road construction and maintenance are being worked out. Ontario has a good roads system introduced into the counties wherein the government furnished $40 for every $60 furnished by the county, and the province contributes 20% of the maintenance.

Financing a road is a simple problem if we will keep in mind that it is an investment which ought to be paid for by the people who receive its benefits and in accordance with the benefits which they receive from it.

BOND ISSUES ARE IDEAL.

Where roads are financed by bond issues so as to distribute the first costs equitably over the generations of taxpayers who are going to use the roads, we have certainly the real solution. If a road is going to last for 20 years, and we raise our funds on bonds running for 20 years, it meets the case. Where a road is built and paid for in one year or so, the taxpayers simply make a present of the road to posterity. It is the same in much of our township permanent bridge construction work. If a large expenditure is necessary now to lay the proper foundations for a good road, the taxpayer of to-morrow must bear his fair share of that burden. That is why the bond system carries the principle of equity in it.

Anticipating the future public revenues by means of bond issues is, therefore, the only equitable method of distributing the cost of such long-lived improvements on our highways. The farmer is demanding current rates of interest on his money. From 5 to 8 per cent. is secured on mortgage security. The banks charge him 7% and 8% for loans. Often his county and school debentures have been selling for 4½%, although they are bringing slightly better prices now. It is easy to see then, if the bonds for road improvement are sold in equally as good a market, the farmer will be saving fully one per cent. and often more on his money.

Good Roads

The articles in this issue give condensed information on—

1. Financing Good Roads.
2. U.S. Road Figures.
3. Road Machinery.
4. Farm Co-operation.
5. Teaming Costs.
6. Nova Scotia Reports.
7. Quebec Leads.
8. How Good Roads Pay.
9. Autos Increase Fast.
10. Good Roads in Great Britain.
11. Cost of Bad Roads.
12. A New U.S. $85,000,000 Grant.

Let us look into this. The pay-as-you-go policy in building a barn, does not apply here at all. If he builds a stretch of 10 miles of good roads in his township this year at a cost of $20,000 and pays for it out of the current taxes, the money is gone forever from him. If he had kept that $20,000 at home in use on the farms at 6 or 7 per cent., and borrowed the money from some of the insurance or trust companies he would have got it for 5 per cent. and saved the balance. Thus the money kept at home in productive use would pay not only the 4½ or 5 per cent. interest on the $20,000, but reduced the principal yearly so that the whole thing would be wiped out in thirty or 40 years, according to his shrewdness in dealing. He would then have both the good road, the added efficiency and the use of the money besides.

Such a plan, whereby the government could borrow the money at a low rate of 4½ or 5 per cent., and loan the money to the counties or municipalities at a low rate and compound the profit on the amortization plan, whereby the debt would be wiped out, principal and interest, in a stated number of years, would be an ideal one.

ESTIMATING LIFE OF ROAD.

There may be some difficulties in the minds of many as to the estimated life of any road being at all accurately gauged. Yet this is a difficulty easily overcome. Already we have so much data about permanent roads, about subsoils, frost action, freshets, unusual conditions and disintegration, both from modern experiments and from the old Roman roads in Great Britain and in Italy. We know that drainage made right stays right, hills cut down are cut down forever, macadam road properly maintained, concrete and asphalt properly laid and kept up give us roads about which we can be tolerably sure in our estimates.

The incidence of taxation is another problem. Our general theory of the benefited paying the tax is all right. Its working out is where injustice sometimes comes in. A road of a permanent nature running across a county near the front, such as is the case of Ontario county where ten miles of road paralleling the lake has to be built in the good roads scheme works some injustice to the rear residents. The county goes back probably 60 miles and the major portion lies beyond the Laurentian hills almost effectually barring traffic at all locally. How shall we assess equitably? The case is not without a working solution. The fact that the solution has not been made, only evidences our pioneering youthfulness in road financing.

FRONTAGE TAXATION.

In the first place, the value of the road as a through artery for the province must be estimated. The province should build what it uses. Then again the men who live near the road must bear a fair share. He gets a special benefit and must pay a special tax. In some of the U.S. states this special claim is assessed at one-fourth and one-third. The neighbors next removed receive

George S. Henry, M.L.A.

Sec.-Treasurer of the Ontario Good Roads Association and prominently mentioned as possible Minister of Agriculture at the time of the death of Hon. Jas. Duff, a farmer of 300 acres with Holsteins and intensive truck farming specialties.

lesser benefits and the variable of assessment diminishes as his farm recedes from the road in question.

In Toronto when a new street was widened, as was Danforth Avenue, the residents on each side for 100 feet were assessed a special tax. The principle holds good in rural road improvement to a limited extent. While bond issues are necessary to equalize the taxes on successive generations, so special assessments are necessary to equalize as between locally benefited taxpayers.

Thus the plan, on a larger scale, of insisting upon a county appropriation in excess of the government or federal or provincial grants, is done with the same equity in view.

An improved road, with a hard surface good for travel at all times in all kinds of weather, has become now the inter-urban and inter-county track of our modern life. Farmers particularly are also veering around to the opinion that good roads are going to serve their business in the future even better than electric roads. Farmers are gradually becoming automobile owners and the agricultural counties especially the prairie sections, are noting the values of good highways. Instances similar to the one instanced by the *American Lumberman* will be common soon. In this case, a company in California buying skimmed milk from the farmer sent trucks directly to the farms, but they paid higher prices to farmers living on good roads than on bad roads. On poor roads they paid 17½ cents per 100 lbs., but on good roads 20 cents. Minutes are now better measurements of distance than miles.

U.S. Good Roads Notes.

A Washington good roads authority says that "ten thousand men can make a watch where one man can make a road."

The public roads of the U.S. outside towns and cities have a total length of 2,228,042 miles, of which only 229,219 miles are improved with any form of surfacing.

Unskilled labor is rarely more than 50% efficient in road work.

From 60 to 75 per cent. of U.S. roads, however, still carry little or no through traffic and so are primarily of local importance.

New York State has four classes of roads—state highways, county highways, county roads and town roads.

It is obviously a mistake to spend money to reduce to a 1 per cent. grade where a 3 per cent. grade would do just as well.

The number of automobiles registered in 47 of the leading countries is 3,108,468. Of that number the United States claims 2,500,000, having a value of $2,500,000,000. This means that for every mile of road in the United States there is an auto, and one car to every forty people.

In 1904 the U.S. expenditure for road building was $2,000,000, and in 1912 it was $43,000,000, while this year, it is estimated that an equivalent of $225,000,000 is being expended for road improvement.

Highway machinery has been purchased by 39 States of the American Union.

The public roads of the U.S. outside incorporated towns and cities have a total length of 2,228,042 miles, of which only 229,219 miles, or a trifle more than 10 per cent., are improved.

Road Machinery.

Many good roads were built before the invention of road-building machinery, but modern machinery has done much to simplify the process and reduce the cost of road construction. The power-driven road roller has made possible the construction of a macadam road in a few days or weeks, where formerly traffic was required to make its way laboriously over the loose stones for months before the surface became even reasonably consolidated.

The steam road roller was invented by M. Louis Lemoine, of Bordeaux, France. The French Government granted him a patent in 1859. The first English patent was granted to Messrs. Clark and Bathe in 1863. The first steam road roller used in the United States was imported from England in 1868, and its first use was on the United States arsenal grounds in Philadelphia.

The stone crusher has greatly reduced the labor of preparing broken stone. It was the invention, in 1858, of Eli Whitney Blake, of New Haven, Conn. He was a nephew of Eli Whitney, the inventor of the cotton gin. Mr. Blake's crusher was used first in Central Park New York City, in crushing rock for concrete. In 1859 the City of Hartford, Conn., purchased one of these crushers for use in the improvement of its streets and roads. This was the first successful application of mechanical power to breaking stone for road-building purposes.

View on a Good Roads work in York Co., showing one of the heavy rollers at work. Automobile traffic has become so great in rural Ontario that old ideas of roads wont hold water, although the roads do.

What Farm Co-operation Did.

As an example of the great diversity of ways and means that may be employed in getting road work done, this story from the *Scientific American* may be of interest. Nearing Bowling Green, Kentucky, the main market roads had been macadamized by the county. The local roads, however, were unimproved. A number of farmers decided to improve these branch roads, over which they had to pass in order to reach the main roads. During the plowing season all the rocks encountered in the fields were picked up and thrown in piles. Later, when the crops were in, and time available, these stones were hauled to the county rock crusher. County co-operation had been secured to the extent of furnishing and operating a crushing plant and a road roller. The farmers then hauled the broken stone and placed it on the roads. The actual cash outlay of the county for the crushing and rolling was at the rate of $500 per mile for roads ordinarily costing $3,000 per mile. The farmers, moreover, secured good roads and cleared their fields of stone at the same time.

Taxing Teaming Costs and Pay Bonds

The average load for a double team on the old roads, says a report on the Virginia roads, was about 2,000 pounds, and on the new roads about 3,200 pounds, although much larger roads were by no means uncommon. The average haul for a double team on the old roads was about 10 miles, and on the new roads about 12.5 miles. The average cost of team and driver was about $3 per day. On this basis the cost of hauling per ton-mile on the old roads was approximately 30c. and on the new roads 15c. A saving of 15c. per ton-mile on 833,136 annual ton-miles amounts to $124,970, which would be more than sufficient to retire the bonds in one year.

A BIG BEDROOM

Easterner (after first day's work on a big Western ranch)—Will you please show me where I can sleep to-night? Ranches—Where you can sleep! Great Scott, man, here's 10,000 acres; jest pick out any blame spot that suits you, and go to it.—New York *Times*.

How Good Roads Pay Farmers

An Inquiry in Virgina That Looks Good as to the Results of Good Roads

GOOD roads expenditures have been made rather freely in many states of the Union and some results obtained from their benefits.

Careful records were kept in one county in Virginia on 35 farms located on the roads selected for improvement. The number of acres in these farms was 5,518 and the total market value at that time was $77,950, or $14.13 per acre. In the same year the average value of all land in the county by the U. S. census was put at $13 per acre. After two years another inquiry was made on these 35 farms, and after careful inquiry, and records of sales of farms taken into account, the actual record taken was $20,100, or 63.2 per cent. over 1910 values.

In February, 1914, another inspection was made when it was shown that 80 per cent. increases in values had been made.

In order to verify this and to find out if an increase had taken place in other parts of the county, or whether it was only along the good roads sections, a survey was made and the conclusion was that land along the improved roads increased in value about 70 per cent., most of it due entirely to the roads.

Moreover, it was found out that poor places were coming into profitable production, waste places drained, new houses being erected and general living conditions improved.

The average selling values of the farms increased as the records of real estate sales showed. This was attributed largely to the saving in cost of hauling and to the easier access of farms to markets and shipping points.

Their investigations also showed that the farther away from town on the improved roads the farm lies, the greater the percentage of increase in value.

Automobiles Increase Fast

Farmers are Becoming the Biggest Buyers of Cars and Know Value of Roads

THE increase in automobiles in Canada this year promises to outdistance all records. The great increase is coming from the farm, where service is wanted and demanded.

Although we have no statistics to show the total growth of the industry in Canada, the increase in Ontario is fairly symptomatic of all the provinces.

Ontario has about 50,000 miles of road. Licenses for autos issued in 115 were 42,346 and in 1916, 51,589, besides 2,786 for commercial motors. This shows an increase of over 25% in one year, and W. A. MacLean, of the Highways Department, looks for a bigger thing this year.

A tabulated statement from the United States shows some startling changes taking place in road travel.

U.S. MANUFACTURE OF AUTOMOBILES.

	No. of Carriages	Total value
1899	3,700	$ 4,750,000
1903	11,000	12,650,000
1905	25,000	40,000,000
1907	44,000	92,400,000
1909	126,500	164,200,000
1911	210,000	226,500,000
1912	378,000	378,000,000
1913	485,000	425,000,000
1914	515,000	490,000,000
1915	892,000	723,000,000
1916	1,200,000	900,000,000

Good Roads in Great Britain

THE Road Board was created by the present British Government in 1909, for the purpose of constructing and improving roads and bridges. It derives its chief revenue from motor spirit duties and carriage licenses. The road improvement fund amounted, in 1915, to $8,104,870, an increase of about $2,000,000 over the receipts for 1912. Since 1910 the total receipts have amounted to over $32,000,000, all derived from duties on motor spirit, carriage licenses and profit on investments. In the report for the period ending March 31, 1915, it was shown that a total of $23,638,635 had been expended in grants or loans for road improvement from 1910 to 1915.

Since the outbreak of the war the Board has sought to promote the work of road construction and improvement in districts where unemployment exists.

The following table shows the expenditure during the year ending March 31, 1915:—

	Grants	Loans
Improvement of road crusts	$5,433,010	$2,364,635
Road widenings and improvement of curves, gradients and corners	644,880	41,935
Road diversions	76,850	1,980
Reconstruction and improvement of bridges	77,810	....
New roads and bridges	2,256,870	3,540

NOVA SCOTIA ROAD REPORT

There were 1,413 licenses issued in N.S. in 1916. Hiram Donkin, Road Commissioner, writes FARMER'S MAGAZINE that he expects a big increase in 1917. The road mileage there is 18,000 and there are 18 county organizations for good roads. The total revenue for automobile licenses in 1916 was $32,870 and this is set apart for road purposes.

The province has yet very little but earth roads.

ENORMOUS COST OF BAD ROADS

BY HON. DAVID F. HOUSTON, SEC. OF AGR. FOR U.S.A.

There is no need of discussing the importance of good roads. They are essential to comfortable travel, to the economic production and distribution of farm products, to the development especially of satisfactory rural schools, and to the improvement of the social life of the nation. Bad roads are very expensive possessions. It is estimated that it costs 23 cents under existing conditions to haul a ton a mile on the average country road and only 13 cents on a properly improved road, but this is not all the story.

The direct cost is very great and the indirect costs are possibly even greater. With bad roads the farmer is compelled to haul when he should be engaged in other activities, while with good roads he can plan his operations without reference to the weather.

A U.S. FEDERAL ROAD MOVE

A road Act was passed by the Senate of the United States last summer whereby a scheme for co-ordinating the road work by the whole country was incorporated in a bill. This bill enacts that the Secretary of Agriculture co-operate with the States through their respective highways departments, in the construction of rural post roads.

The total amount appropriated on rural post roads is $85,000,000 to be spent during the five years ending June 30, 1921. Ten million of this goes to the national forest roads, and the $75,000,000 is divided as follows:

$ 5,000,000	for the	year	ending	June 30,	1917
10,000,000	"	"	"	"	1918
15,000,000	"	"	"	"	1919
20,000,000	"	"	"	"	1920
25,000,000	"	"	"	"	1921

A deduction for administration is not to exceed 3 per cent.

The remainder is apportioned among the States, one-third in the ratio which the population of each state bears to the total area of all the states; one-third in the ratio in which the population of each state bears to the total population of all the states; and one-third in the ratio which the mileage of rural delivery and star routes in each state bears to the total mileage of rural delivery routes and star routes in all the states.

Roads which may be constructed exclude streets and roads in places having a population of 2,500 or more except on such portions of such highways where the houses average more than 200 feet apart.

All projects must be substantial in character. A limit of the federal grant is to $10,000 a mile exclusive of bridges.

The state must assent to it through its legislature. It must have a highways department.

The state must furnish the plans and confer with the Secretary as to the roads.

The state must maintain the roads unless otherwise taken care of.

A POULTRY POSER

Bobby's father owned an incubator, and one day the little fellow was watching a chicken energetically breaking his way through the shell. Just then he said: "Papa, I see how the chicken gets out of the shell, but what I can't understand is how he got into it."—Chicago *Daily News*.

Shall Fruit Growers Dust?

Ontario Men Hear Prof. Whetzell, of New York, and Prof. Caesar, of Ontario, Give Their Evidence.

IS DUSTING going to oust the liquid spray in Canadian orchards? The question is one that is being watched with intense interest because it means much to the fruit growers, especially in a time of labor shortage. The weeping days of 1916's spring and the fickleness of every season when spraying must be done also largely accounts for the tension. Fruit growers await definite data on the effectiveness of dust and then the grand scramble will begin.

And what *is* the situation? Perhaps there was no more interested gathering in Canada than that which took place in the Parliament Buildings, Toronto, at the annual meeting of the Ontario Fruitgrowers in February. An evening's discussion was given to dusting, and the ball was set rolling by Prof. H. H. Whetzell, Plant Pathologist of Cornell University, New York State. Dusting as a substitute for liquid spray has been investigated, experimented with and reported upon by his station. What looks like incontrovertible evidence was furnished the growers, in detailed special information.

This presentation of the facts of the case, without deduction or recommend, was followed by questions that brought out many points concerning the practical use of dust. The Ontario work carried on by Prof. L. Cæsar, of Guelph, has added considerable information.

Generally speaking, the attitude of the fruit growers is a waiting one, although the following evidence seems conclusive to many.

Prof. H. H. Whetzell, of Cornell University, reviewed the whole history of dusting *vs.* sprays before the Ontario Fruitgrowers. The work, so far, has been entirely to control codling moth and apple scab. The chief points brought out are paragraphed as follows:

Dusting is one of the oldest means of combating fungus troubles.

In all experiments, it has been the sulphur that is the effective agent.

Ordinary sulphur is not fine enough. It has to be ground very fine to be effective.

Dr. Wallace, a Nova Scotia boy, carried out a series of experiments for Cornell.

In 1916 they had come to the conclusion that dusting was just as effective as liquid sprays in controlling scab and worms on apples.

During 1912 to 1915 the experiments show: (a) Difference between dust and spray of 3 3-10 per cent. in favor of dust as far as perfect apples were concerned.

(b) 2% in favor of liquid spray for control of apple scab.

(c) 2% in favor of dust in controlling codling moth.

This puts practically the two on an equal basis.

Many fruit growers, and those among the best, tried out dusting in 1916. Their results showed a slight return in favor of the liquid spray.

Reasons for this are, that a new way is always improperly handled at first; the season was a very bad one, so much rain prevailing and ground being so wet; the dust was too coarse, as it ought to be fine enough to go through a 200 mesh screen.

Questions were submitted to the N.Y. growers this winter to see how many are going to continue dust. 75% will dust in 1917; 10 % are undecided and from 5 to 10 per cent. will quit.

The relative cost during the four years shows that dust applied most effectively will cost no more. But he doubts if it will ever be cheaper.

Cost of dust lay in the materials. They put on 2½ to 3 lbs. of sulphur to a large tree, but they hope to dust with one lb. in 1917.

The mixture was 15% lead and 85% sulphur.

Applications for fungicides must be made ahead of the rains. One can watch the weather map and become highly efficient.

Ten acres can be done in two hours if circumstances demand it.

There are many perfections to make yet in the dusting machine.

One can work half a day with a duster without stopping.

The number of applications depend upon the season, but the good part of it is, that it can be done just when wanted and in a short time.

Cost of power duster is about $300, including a 2½ h.p. gasoline engine.

Continued on page 63.

God's Green Country:

By ETHEL M. CHAPMAN

A Tale of the Ups and Downs of Country Life

CHAPTER VII (*continued*).

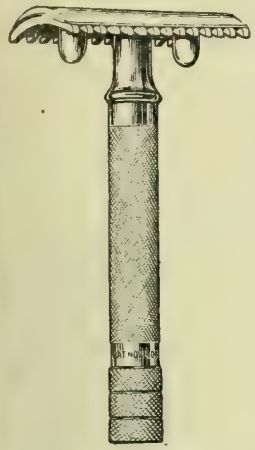
BILLY didn't say definitely what he intended to do about it. That night he stood at his window for a long time in the dark and looked out over the roofs of the city, massed off in dark blurry squares with the street lights stretching between like ropes of toy electric globes strung along a circus midway. Very confining it seemed to his country-bred instincts, while beyond the last flickering lamp in some laborer's cottage, the moist brown earth stretched for miles and miles in limitless freedom. A thin white mist rose from it now like incense from the hearth of the god of production. It was the wonderful season of beginnings on the farm, birth and promise everywhere—the eternal old mother pulsing with the first life of the bursting seed, warm yellow beaks chipping their shells, wobbly-legged colts blinking at the light of day, and weak, trembly, clamorous lambs needing the tenderest care of all, and so few people with the right human instinct to look after them.

A passionate hunger for the land possessed him. Beyond the pine-covered hills lay the place he had set his heart on. It would take a long time to work it into the Eldorado it promised, and his restive young muscles ached to get at it. There would be two or three years of the grindingest kind of work, then returns would begin to come in. The quaint Swiss chalet with its low stone wall and chimney would go up among the trees, and its light blink down through their shelter on the highway at night, as he had pictured it for years. There would still be an abundance of man-size tasks to do, and worries to handle, and debts to meet; the same fields would call him to work every day, but there would be the cabin to come back to at night to dream and to love.

As usual his arguments brought him back in a circle. Of course Jimmy had been right in thinking the farm was the loneliest place in the world to go to alone, and of course, whatever Jimmy, or anyone else thought, the dreams of the little house were all inspired by a vision that had hovered never far from the surface of his consciousness since it startled him out of his boyhood a few years before. As is usual with idealistic natures, he had endowed his idol with every grace he worshipped; it was strengthened and purified as his experience broadened, until no one else would ever have recognized it as belonging to the silky little kitten of a maid who handled her playthings with such soft-pawed heartlessness. The longer he stayed away from her the more she seemed set apart in a world of other interests and other friends. Now the opportunity had come to live in the same community, and while there were moments when the prospect rather terrified him, it never occurred to him to let it pass. He still wanted the farm, but the farm could wait; the human jealous fear of losing her, stamped out every other ambition. So it came about that the next few weeks found him moving into the county agricultural office.

The work habit is a powerful saving force to tide us sanely over periods of distracting interests. When Billy took on the robes of his office he was not by any means indifferent. He owed enough personally to the representative in his home county to appreciate the bigness of the job, and his brief experience as assistant made it easy for him to go ahead with the general routine. Against this there was a troublesome undercurrent of dissatisfaction working, a half-ashamed feeling that he was making the position a means to an end. But because he had worked all his life he began at once to dig up something to do. The more he investigated the more he found to do, and the more he found to do the more he became fired with the possibilities of achievement.

Continued on page 25.



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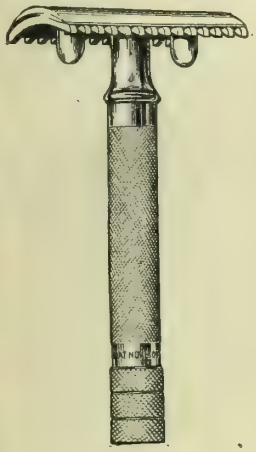

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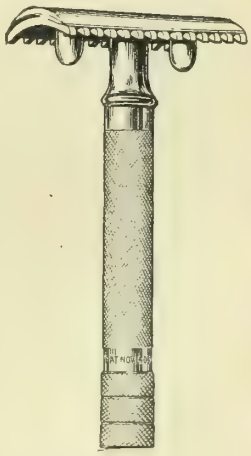

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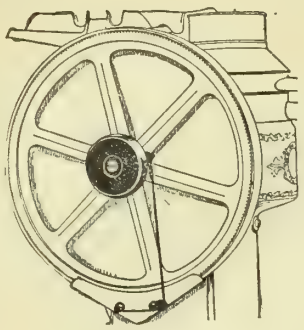

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Insures proper speed on every NEW De Laval Cream Separator

NINE people out of ten turn the separator handle too slowly.

Thousands of tests with experienced separator operators show this to be the case.

Other tests made by the highest authorities have shown conclusively that there is a big cream loss when the cream separator is not turned fast enough.

You will avoid such a possible cream loss if you buy the New De Laval. The Bell Speed Indicator on the New De Laval is a "warning signal" that insures proper speed at all times. No matter who runs your De Laval, this "warning signal" will tell you when the speed is not right. You hear it and do not need to see it. This one feature alone may easily save you the cost of a cream separator in the next few months.

But that is only one of the big advantages of the New De Laval. Other advantages are greater capacity, closer skimming and easier turning, simpler bowl construction, and easier washing.

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$125 Per Acre From Beans.

Not every year can a farmer grow a crop of any kind that will pay for the land in one season and with weather like we had in 1916 large profits per acre were rather the exception. Of course, high prices offset low yields to some extent and a good yield with present prices net an exceptional return. Last fall when the bean crop on the home farm near Chatham had been threshed and marketed we received $125 per acre from a six-acre field.

In that particular section land sells at about a hundred dollars per acre. One small corner of the field was clay and it did not produce nearly as much as the sandy loam which seemed to hold the moisture better during the dry spell. The land was an oat stubble that had become a little grassy and twelve loads of barnyard manure were put on and ploughed four inches deep. After discing the ground three times and harrowing twice it was ready to drill. The seed was sown on June 20th at the rate of three pecks to the acre. As soon as the beans were big enough they were cultivated once to cover the little weeds in the bean rows. This saved much hand-hoeing later on and one man hoed half an acre per day.

Altogether the field was cultivated seven times (once with the two-horse cultivator). In addition to the manure three hundred pounds of Swift's 2-9-3 fertilizer were broadcast over the poorest parts of the field and worked in. By cultivating often, the beans were kept growing fast enough that they were so far on at the time when the blossoms fell off most of the beans in the section, that they were not affected in any way. It was the loss of blossoms that caused the poor crops in Western Ontario this year.

On September 18th the beans were harvested and the six-acre field averaged twenty bushels per acre and sold at $6.25 per bushel, making a total of $750. Since there was no rain when harvesting the crop the straw made excellent feed, which the cattle seemed to prefer to hay. There would be about three-quarters of a ton of bean straw to the acre. The soil was so loose that the bean cutter would not work, so a mowing machine was used instead, cutting two rows at a time and they were bunched-forked to one side the same as peas.

At no time during the summer was there any sign of disease on the beans. Michigan Pea Bean was the name of the variety and the seed was worth six dollars per bushel. It cost about twelve dollars for threshing, including the men's time and the beans were sold directly from the machine without cleaning or grading.—W.J.S.

Buy Holsteins

Farmers will watch with particular care the sale announcement in this issue of the Belleville Holstein Breeders at Belleville on April 4th. See the ad. and write for a catalogue. They say there are more of the right kind of producers in this sale than ever before.

Also the advertisement of Purtelle & Leavens and W. L. Shaw, regarding the high-class stock from a son of a $50,000 bull, will be worth noting.—Advertisement.

"Gilt Edge"

The only black dressing for ladies' and children's shoes that positively contains **OIL.** Softens and preserves. Imparts a beautiful black lustre. **LARGEST QUANTITY FINEST QUALITY.** Its use saves times, labor and brushes, as it **Shines without brushing.** Sponge in **every bottle, so Always Ready for Use.**

gents' kid, kangaroo, etc. 25c.

"QUICK WHITE" (in **liquid** form with sponge) **quickly cleans** and whitens dirty canvas shoes. 10c and 25c. **"ALBO" cleans and whitens BUCK, NUBUCK, SUEDE** and **CANVAS SHOES.** In round white cakes packed in zinc boxes, with sponge, 10c. In handsome, large aluminum boxes with sponge, 25c.

"ELITE" combination for gentlemen who take pride in having their shoes look A1. Restores color and lustre to all black shoes. Polish with a brush or cloth, 25c. **"BABY ELITE"** size, 10c.
"DANDY" combination for **cleaning and polishing** all kinds of russet or tan shoes, 25c. **"STAR"** size, 10c.

ASK YOUR DEALER FOR

WHITTEMORE'S

Shoe Polishes

TOP DRESS all your Crops with Nitrate of Soda, no matter what other fertilizers you may have used — 100 pounds to the acre for seeded crops and 200 pounds to the acre for the cultivated ones. The increase will yield large profits over the cost.

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THE UNTRAINED.

BY DR. FRANK CRANE.

I HAVE just graduated from the High School. I am supposed to be educated. The City has provided me for some years with skilled teachers and expensive apparatus of all kinds. I will tell you a few things I don't know.

I know by heart several slices of Goethe and Schiller; but I don't know how to ask in German for a piece of bread and butter.

I know some irregular French verbs; but if I were lost in the streets of Paris I couldn't ask my way home.

I can say *amo, amas, amat,* also *en to oikio ton anthropon horo,* but I cannot keep the ledger at my father's store nor send out his monthly statements.

I am half-back on our team and know the quirks of passing the ball; but I don't know how to build a woodshed or shingle a roof.

I can extract the square root of 9,273,-642; but I don't know how to extract the milk from our cow.

I know how to parse a sentence from Macaulay's Essays; but I don't know how to light a match in the wind or how to chop down a tree.

I have studied Political Economy until my head is full of raw theories and long words; but I dont' know the name of the alderman from our ward nor the congressman from our district.

I can prove that the square of the hypotenuse is equal to the sum of the squares of the base and perpendicular; but I don't know how to hang wall-paper, put in a pane of glass or paint a buggy.

I have taken fifty lessons in chemistry; but I don't know enough to keep alcohol out of my system. I know nothing of food value and gorge myself on what pleases my palate.

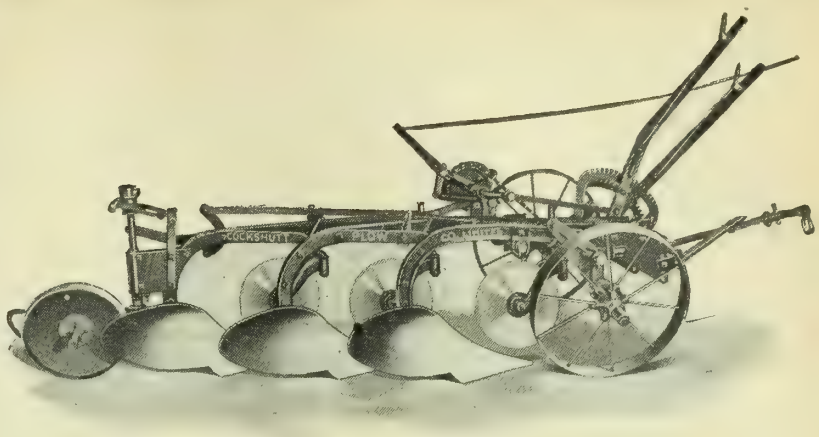
I received eighty-five per cent. in English literature; but I couldn't get fifteen dollars a week writing news for a newspaper, I can't write a readable letter, and my average conversation is about on a level with the sporting page.

I don't know who our mayor is and nothing of our city government; but I know the names and have the pictures of all the prominent actress, prize-fighters and baseball stars.

I can order drinks at the Country Club; but I can't churn a good mess of butter, I don't know when to plant beans, I have no idea what kind of soil is good for corn, I can't tell a slippery elm from a hickory tree, I don't know the names of the grasses, mosses, ferns and flowers in the woods I tramp over, I can't fry fish nor make coffee nor biscuit, and I don't know the names of the stars I see every night in the sky.

Nobody has made me understand how to control my appetites, nor the laws and dangers of sex feeling, nor the need of discipline, nor the art of engaging conversation, nor the true nature of happiness.

I was educated according to the ancient formulas for producing a scholar and a gentleman, and I find I have to work for a living. I have no taste nor love for hard work, no habits of saving, no disposition to resist temptation, and no skill in doing anything the world is willing to pay for. I am wholly untrained for efficiency; and before I make good I will have to undo most that has been done to me in school.



Solves the Plow Problem

If you're going in for Light Tractor Plowing then this Cockshutt Light Tractor Plow is just made for you

IT'S NEW—yet it's already well tried and a splendid success. Our engineers are always thinking ahead—and they've foreseen the present shortage of farm labor and the Cockshutt Light Tractor Plow (amongst other implements) is our solution of the problem.

Can be used with any make of Tractor and is really easier to control than a walking plow. One man can easily handle the whole outfit, both Tractor and Plow.

We have a handy, descriptive, plainly worded circular on this Plow. Write for it today.

A FEW GOOD POINTS.

Turn it into a two or three-furrow plow at will.

Just a pull on a cord lifts the bottoms from the ground to avoid an obstruction or when at the end of a furrow.

Just another pull on the same cord lowers them, and the bottoms dig straight to their work like a walking plow.

The land wheel and an exclusive eccentric and clutch "do the trick"—easy.

Change the depth of work by easily handled levers — without stopping or slowing up the plow.

Staggered front wheel ensures absolutely true running with furrows always even—and extra wide clearance to avoid trash.

Cockshutt light draft and high quality materials.

Cockshutt Plow Company Limited **Brantford**

Sold in Eastern Ontario, Quebec and Maritime Provinces by

The Frost & Wood Co. Limited **Smith's Falls** MONTREAL ST. JOHN

TRAPPERS! Send your RAW FURS to JOHN HALLAM

and receive highest cash prices. We send money the same day the furs are received. Charge no commissions—and pay all charges. We have paid out millions of dollars to thousands of trappers in Canada who send their furs to us because they know they get a square deal, and receive more money for their furs. You will also. We buy more furs from trappers for cash than any other five firms in Canada.

FREE Hallam's Trapper Guide (96 pages) Hallam's Sportsmen's Catalogue Hallam's Raw Fur Quotations Hallam's Fur Style Book (32 pages) Sent free on request - Address as follows:

JOHN HALLAM Limited
145 Hallam Building, Toronto.

Big Holstein Sale

Best Bunch of producers ever offered by this District.

BELLEVILLE HOLSTEIN BREEDERS' SALE
BELLEVILLE, ONT.
on Wednesday, April 4th, 1917

More 100 lb. producing ancestry behind these animals than ever offered. Two with a sire already 30-lb per week heifers to his credit. Performance is behind this offering. A chance of the pick of Ontario breeding barns.

Send for Catalogs. Mention Farmer's Magazine.

J. A. CASKEY, Sale Manager
Madoc, Ont.

This is the time of year when an

IDEAL GREEN FEED SILO

would pay big returns

Made in Canada

Rich, juicy silage would give you 25% more milk and cut a big slice off your feed bill into the bargain.

Grain is expensive, and cows fed only on grain and hay will not begin to produce as much milk as cows on a silage ration.

A cow's milk yield falls off during the winter months simply because under the dry feeding system she does not get the stimulating green feed that she has during the summer. Silage supplies this green feed and reproduces, to a great extent, the conditions that make her give a big yield of milk in the summer months when she is out at pasture.

Silage is the cheapest feed and the greatest milk-producing feed known. While it is especially valuable in the cold winter months when dairy products are bringing their highest prices and cows ordinarily give less milk, it is hardly less valuable during the dry summer months when pasturage is scarce. Many cow-owners find that it pays to feed carried-over silage when pastures fail, because by so doing they prevent the falling off in the milk yield that is never fully restored, even with the return of good pasturage in the fall.

A good silo is the best investment you can make—an investment that will return you 100% every year you have it. No other equipment you could add to your farm will give you as great returns. Make up your mind now that you will not let another winter find you without an Ideal Green Feed Silo.

THE DE LAVAL COMPANY, Ltd.

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA.
Sole distributors in Canada of the famous De Laval Cream Separators and Alpha Gas Engines. Manufacturers of Ideal Green Feed Silos.

Catalogue of any of our lines mailed upon request.

MONTREAL PETERBORO WINNIPEG VANCOUVER
50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

"Production and Thrift"

Two Reasons for Using

"Best-by-Test" FERTILIZERS

If the soil lacks **one** of the ingredients necessary for plant growth, it is a serious drawback. No plant can **fully develop** without the presence of **all** the required elements. It is because "Best-by-Test" Fertilizers possess the full amount of chemical plant food, in such readily assimiliated form, that farmers give them the preference. Made in Canada. Made scientifically and honestly. Full weight and full strength. Write for prices.

Reliable Local Agents Wanted.

CANADIAN FERTILIZER COMPANY, Limited
21 MARKET CHAMBERS, CHATHAM, ONTARIO

A Leader Among Livestock Men

Continued from page 6.

a success as a breeder and owner of live stock a man must be a judge of what constitutes a perfect animal. We endeavor first of all to inspire our students with enthusiasm for quality and to drill into them the knowledge necessary for them to know the fine points of the business. What we aim at is to send out young men with enthusiasm and ambition, equipped with ideas that tend towards success. Of course there are plenty of disappointments. One young fellow may be hampered in his efforts by an unsympathetic father. Another may marry the wrong kind of wife. Yet, speaking generally, and so far as we can get into touch with ex-students, they seem to be fairly well satisfied.

"We are doing our best to maintain the standard of our own live stock. Of late we haven't been doing much buying, except some bulls and males, and in most breeds, we do our own breeding. Before that we had to do considerable buying but now that we have a good foundation, it is mainly a question of securing the males. All our cattle are tuberculin tested, though I must say that in buying we have found the test none too reliable.

"The criticism is sometimes levelled at us that we do not keep our cattle at a profit, nor demonstrate in actual practice how it can be done. The trouble lies in having to maintain so many different breeds for demonstration purposes. We have for instance, Holsteins, Jerseys, Ayrshires and Dairy Shorthorns. If a man were going in for cattle as a business he would be a fool to have all; he would certainly go in for specialties. We are of necessity compelled to keep all these breeds for the sake of variety and being together it is impossible to run separate accounts for each. It costs money but then it is worth while for the advantage of the young fellows who come to the College to study."

Professor Day is popular in Guelph, where he frequently rubs up against the men of the Royal City on the bowling green, bowling being a sport for which he has great fondness. He is one of those genuine, square-minded fellows, without side or pretensions of any sort, quiet in manner, gentle of speech and kindly of disposition. It is always invidious to make comparisons among the personnel of any institution but there is no doubt that his colleagues will agree that he stands in the very forefront of their number as a man whose influence on the graduating classes of twenty-two years has been all for good.

Laws Affecting Women

The Province of Saskatchewan in their Bulletin No. 44 tell about the various enactments that affect women. These deal with liquor laws, equal suffrage, medicine services, Homestead Act, Devolution of Estates, Factories Act, vote in municipal election, Deserted Wives Maintenance Act, etc.

A Scottish School Garden: By WILLIAM PRINGLE

A School Board in Old Scotland That in Spite of Wars, is Laying Broad, Progressive Lines of Educational Work.

WHEN the Scottish Education Department, a few years ago, smiled on the idea of giving country children, especially, some practical training, the School Inspector of the district, Mr. Clark, promised to get a grant from the County Council which would cover half the initial expenses. He fulfilled his promise and the School Board for our Parish, the Parish of Crichton, found the remainder and soon the formation of a garden was begun.

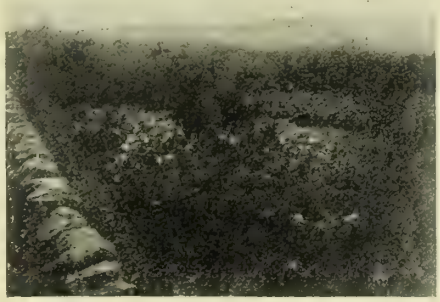
Fortunately the School Board possessed a piece of ground large enough for the purpose for which they paid only one shilling a year ago to the proprietor of the estate who owns all the farms around. It was a most unpromising plot for the purpose. For generations it had been the playground of the old school and loads of gravel, sand, and miscellaneous rubbish generally, had been put down thereon and trampled into a solid mass. Some of the wiseacres about, accustomed as they were to splendidly tilled fields smiled when it was talked of and said nothing could be made of it. It had to be attempted, however. First of all ten plots, one square pole each in size, were laid off; two triangular plots and one large fruit plot. After this was done, a local drainer was employed to dig to a depth of about two feet with a drain spade. It was slow and rather hard work, but at length it was accomplished. The boys then began — about twenty of them—and took as many stones off as they could. Afterwards they coated with earth from the road side, each plot, to the depth of over six inches. This they dug over and mixed with the upper surface of the earth turned over by the drainer, and in the spring every thing was ready for the seed.

After consultation with Mr. Bruce, of the E. of Scotland Agricultural College, and G. P. Berry, Horticultural Lecturer of the same, it was arranged to have six of the plots devoted to Agriculture, one to Herbaceous plants, one to propagating cuttings, raising cabbage plants and biennials, one to the common fruits and two to garden crops and two to special crops.

The chief industry of the district is agriculture varying from the four-course rotation to the six course and on the hills within five miles permanent pasture with little or no cropping. Last year the agricultural plots were used as follows: One plot wheat and rye, one plot oats, one plot barley, one rye grass hay, one potatoes, one roots, which consisted of three rows sugar beet, three rows mangold, three rows red Kohl Rabi, three rows green Kohl Rabi, three rows Swedish turnips. The two extra plots were very interesting. The first was planted with flax and hemp. The flax was a fair length and the hemp grew to a height of eleven and a half feet. The second is laid down, half with Lucerne and half with rows of pasture grasses, plants and clovers. There are specimens of twenty-six pasture plants and grasses in it. In the garden plots, specimens of most of the common vegetables are grown: Peas, beans, cabbage, cauliflower, lettuce, spinach, turnips, onions, leeks, etc. One interesting plant to us this year is chicory. The war has stopped the import of the root from Belgium and last year we planted part of a plot with it. It seems now ready for lifting and we hope to dig it and send it to the manufacturers in Edinburgh to see if it is equal to the foreign product. The preparation of each plot is very thorough. It is deeply trenched in autumn and during dry and fresh weather the surface is turned over to the depth of over a foot and allowed to lie there in a rough state till it is required in Spring. When seed time comes the ground is generally in a very fine and suitable condition for seed. Under direction the boys sow everything, and the depth, thickness and manuring are specially considered. The dominant manures are stated and the reasons for sowing on the crop under discussion, *e.g.*, nitrates for grasses and potash for potatoes and so on. Before sowing seeds are carefully examined as to size, color, hardness, dryness and general soundness. We hope in the future to test seeds by germinating them in the school in the usual way.

A view of the school garden showing the stone fence and the school building.

The herbaceous border contains a large number of herbaceous plants. This plot is carefully dug each season and the plants divided where necessary. It is useful in illustrating the three classes of plants, annual, biennial and perennial. The second extra plot is taken up mainly with biennnials such as Canterbury Bells, etc. It has also sowings of cabbage plants, early cabbages, late cabbages, winter cabbages, cauliflower, Broccoli and sprouts, which generally stand the winter and are planted out in spring. In this plot also are cuttings of red and black currants, gooseberries and chrysanthemums and some other flowers.



A plot illustrating the three classes of plants—annuals, biennials and perennials.

The fruit plot was carefully laid out in lines, so that the ground can be lightly turned between the trees and bushes and kept thoroughly clean. Winter work consists of pruning and trees and bushes, a work at which the boys only assist. The general methods of pruning each kind of fruit bush are explained and the principles of shaping the apple trees carefully considered. The boys spray all the trees and bushes to destroy all insect pests and clean the bark, mixing the spraying mixture carefully with the necessary quantity of water. During the summer the bushes are examined carefully periodically to note the appearance of any kind of disease on the branch or leaf. Root pruning is done where it is considered necessary. The tree is carefully taken up. Fibrous roots kept as complete as possible and the long heavy roots are cleanly cut off.

The boys find this interesting and the next season they eagerly watch the tree to see the result of their labor. It will be seen from the above notes that the boys get some idea of the rotation of crops, the method of sowing and manuring of each and the general management during growth. They see nearly all the useful plants which our country produces and acquire a knowledge of their appearance, habits of growth and management. They do all the practical work except perhaps the prunning of some of the trees.

Two years as yet are all that are possible to allow for this kind of work, but it is hoped that even this may give to our boys some insight and instil more interest in them which may serve them in future years and enable them to make a little more of their land and gardens than has been the case in past generations. It would be good if such training went on for two years more.

In addition to the above practical work each week a number of lessons are given which begin with the formation of soils and consider drainage, tillage, rotation of crops, manuring and the structure and parts of a plant and the fertilizing of the crop plants of the farm. The teacher in this case has been fortunate in being under a school board who understood the importance of such a work. The chairman, Mr. Alexander, factor of Preston Hall Estate, is a keen farmer, while the others are also deeply interested in the industry on which so much depends for the future of our country.

Look for the Roll with the Paroid Label

NEPONSET Paroid Roofing has achieved a reputation during the last 19 years that is the admiration of all competitors, and this warning is for your own protection.

Paroid makes the one roof which cannot crack, rot, rust, or dry out, and is endorsed by the National Board of Fire Underwriters for its fire protection qualities.

Your guarantee of satisfaction lies in the Paroid roofs that have stood the severest weather during the last 19 years, and are still in fine condition.

NEPONSET Paroid ROOFING

19 years of Service

Neponset Paroid is made with permanent Grey, Red, and Green Surface. Every roll contains complete kit, and our unconditional guarantee.

For your home, Neponset Twin Shingles are recommended, having the same good qualities as Paroid, and with crushed slate surface of Red or Green.

Hardware and lumber dealers sell Neponset products.

Go to the Neponset dealer and get real satisfaction.

BIRD & SON, Dept. R. HAMILTON, Ont.

The largest manufacturers of Roofing, Wall Board and Roofing Felt in Canada

Warehouses in Winnipeg, Calgary, Edmonton, Vancouver, Montreal, St. John.

Also Manufacturers of Neponset Wall Board.

118

$1,000 Per Acre From Strawberries.

The money from strawberry growing depends, as in every other occupation, upon a love for fruit growing, a determination to do things right, and the marketing efficiency.

C. R. Terry moved to the Clarkson district just west of Toronto, seven years ago and immediately set to work to raise strawberries. Without previous preparation, one acre of corn land was set out to the berry in rows 42 inches apart with the plants 18 to 24 inches apart in the row. This planting was done about May 15 and cultivation was immediately begun with a horse scuffler followed by the hoe.

Since then he has tried strawberry growing to determine the value of soils and differing culture methods to obtain maximum revenues. Speaking of his success in getting 10,000 quarts of berries to the acre and in seeing $1,000 cash gross returns, Mr. Terry said:

"I find the berries do best on a soil underlaid with quicksand, as they can do without rain for long periods in the growing season. I prepare my land by applying 25 tons of manure to the acre, plowing in the fall and cultivating lightly and often in the spring previous to setting the plants on May 15 or as near that date as possible. The plants then are trained to the matted row. However, we use the hoe and try to keep plants from 1 to 3 inches apart.

"During the berry season we do not pull many weeds as the soil disturbance tends to dry out and weaken the crop. Then after the crop is off I run a mower over it. In March I spread about 16 loads of strawy manure to the acre.

I uncover in the spring leaving as much to lie on the ground around the plants as possible. Frost, in my opinion, does very little damage as a rule.

"In picking time we arrange to have one efficient person in charge to see that the berries are properly packed and graded.

"We use the 27-crate box, selling about 40 per cent. of our crop to the Montreal buyers and marketing the balance to Toronto and local towns and villages. We find that it pays not to bunch all your shipments into Toronto."

To show the extent of the business in that district, the local association purchased in 1916 1¼ million boxes, and the average production demands a million boxes with 80% of these for strawberries.

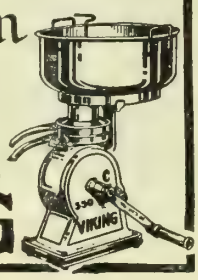
Dead easy to clean

—because it has fewer parts than other standard cream separators, the Viking is easy to wash and keep clean. The key ring blades all wash as one, the Viking bowl can be made perfectly clean in from two to three minutes. Read what successful farmers say of the Viking.

Descriptive Booklet Free. (10)

Write—
SWEDISH SEPARATOR CO.
515 South Fifth Ave., Chicago

VIKING



STORY OF RICE JONES

Owing to the article on the popular manager of the Alberta Co-operative Elevators not being quite in shape, it has been unavoidably held over until the April issue.

What Happened to an Old Farm

How a City Man and Woman Became Back-to-the-landers.

By EDGAR L. VINCENT

III.

NEW QUARTERS FOR THE HOME FOLKS.

WE HAD a lot of fun and some experiences that were not quite so funny fixing up the old house. When the house was first built, the folks who occupied it did not care for such furbelows as bay windows and porches. The building was just a heavy frame, quite as the barns used to be put up, with big posts in the corners and beams ten inches wide for sills. Just a plain, little old house a storey and a half high. A good many years afterward a long "lean-to" had been put on the east side, serving as a kitchen and one or two bedrooms, with one room that was used to store cats and dogs. About the first thing we did was to make our plans for a better house.

In a gully away up on the side of the hill above our house I found a ledge of beautiful blue stones, as sound and hard as you ever saw. It seemed to me these would make a fine foundation for the old house after we got it raised up, for that was what we intended to do. The sills of the house were almost down on the very ground, another fancy of the men folks of the olden times.

I never had known anything about such work, but I had some plugs and feathers made and got a good stone chisel and went to work to break up the stones of the gulf for underpinning. That took me a long time, working odd hours, but it was as pleasant work as I ever did. I got a good deal of satisfaction out of pounding away there and seeing the rocks fall apart, with edges as straight as a die, to reward my labors in the end. I flattered myself that I was so shaping those pieces of rocks that they could be laid right into the wall, and I took great pains to have them as nearly of a thickness as I could. Old Jack, the one horse there was on the farm at that time, and I pulled the stones out of the gulf, up a little road I had dug along the bank and down the hill to the house to await the day of the stone mason.

When we came to pick that old house up bodily and raise it a foot and a half, we found that we had something of a job on hand. To help me about this I engaged a man who made that his business. He had some jackscrews, but I had to scour the country for miles around to get enough for our job. We hoped we might lift the frame of the upright and the lean-to at the same time and do it all so carefully that the plastering of the walls inside would not be broken very seriously. In this we found that we had undertaken what could hardly be performed. It seemed to us that we kept the screws about together as we turned them up, but a single turn of the wrist too far on any given screw was sure to make a big crack in the walls. But we got the frame up.

Then was when the women folks had their share of the fun. The cellar stairs hung down from the house sill, not touching the earth below by a foot and a half. Some of the floors had to be taken up,

The NEW EDISON

Music's Re-Creation

Albert Spalding, America's greatest violinist, proving by actual comparison, that Edison Re-Creates his masterly bowing with absolute perfection.

"The Phonograph With A Soul"

is the title bestowed on the New Edison, by one of the greatest musical critics. This wonderful invention Re-Creates music with such exactness that voice or instrument cannot be distinguished from the New Edison's Re-Creation of it.

Do you want to know more about Mr. Edison's marvellous invention, which one of the musical critics describes as "the Phonograph with a soul"? If so, send to us for a copy of the brochure, "Music's Re-Creation," and the booklet "What The Critics Say."

Thos. A. Edison Inc., Dept. 7823, Orange, N.J.

63

PORT CREDIT BRICK

FULL SIZE *EXTRA VALUE*

Port Credit Cherry Red Pressed Brick is the home building brick. Its full size and extra value make it the really economical brick. Many of the cheery homes you see in Ontario were built with this economical brick. Before you commence to build see the Port Credit Cherry Red full size Brick.

Let us send you prices and samples prepaid. Drop us a card to-day

Port Credit Brick Co., Limited, McKINNON BLDG., TORONTO

Works: Port Credit, Ontario

Ontario Farmers !

Existing war conditions demand that you give the question of seed special attention this year. Seed of desirable varieties and high germination power will be factors influencing yields.

If you have not secured your seed

Let the Ontario Department of Agriculture Help You

Farmers having seed grain or potatoes for sale may forward samples to the **District Representative's Office** stating varieties, price and **quantity.**

Farmers wishing to purchase seed are also invited to communicate with the **District Representative's Office** stating variety and quantity, and this office will endeavor to put them in touch with farmers having seed for sale.

In Counties where District Representatives are not established, farmers are invited to communicate with the Department of Agriculture, Parliament Buildings, Toronto.

W. H. HEARST,
Minister of Agriculture

WE BUY GINSENG

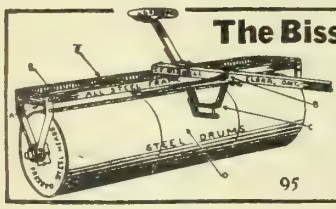
both Wild and Cultivated, at highest prices. If you want reports on Fur or Ginseng, send for free quotations containing full particulars.

H. A. SCHOENEN, 138 W. 25th Street, NEW YORK CITY

HORSES WANTED

Young horses wanted. Mares between ages of four and six years preferred. Must be guaranteed right in every way. Write stating age, breed, weight and price.

Box 20, The Farmer's Magazine
143 University Ave., TORONTO



The Bissell Steel Roller has a rigid steel frame —no wood whatever. Large roller bearings and strong 2" axles insure durability and great strength. The Bissell is a 3-drum Roller of good weight, built to stand hard usage and give great service. Write Dept. Y for free catalogue.

95 **T. E. BISSELL CO., LTD., Elora, Ont.**

See advt. also on page 48.

leaving the sleepers bare. We used to try to keep these covered with boards to walk on, but one day I heard something halfway between a cry and a giggle out on the back porch. Hurrying round that way I found the mistress of the house down between a couple of the joists, with a little barrel churn on top of her. She could not get either in nor out. Luckily she was not seriously hurt, and the funny side of it presented itself to her. That was always the way with her and it helped over many a hard place.

The painter had his narrow escape, too. While working on a ladder on the side of the house one day he heard some sort of a swish out in the field and not far from the building. He had just time to peek round and see that Old Jack was coming toward him on the dead run with a stoneboat hitched to him. He made a bee line for the roof of the house, and it was well that he did. The round of the stoneboat struck the foot of the ladder and turned it into kindling wood in less time than you could say "Jack Robinson." Old Jack went on until he brought up against a solid fencepost where he was captured. That was a lesson to us not to leave a horse to graze in the meadow with a stoneboat fastened to him.

It was a trying time for us all, but we kept good natured as a rule and the end steadily came. We took the cellar wall all down, as it always had been thin before that and likely to tumble down, and laid it up much thicker. That gave us opportunity to do away with a cistern which had been in the ground at the inner angle of the upright and the lean-to. This had gotten so that it leaked badly and could not be repaired. The water from it leaked through into the cellar wall. This afforded Jack Frost a chance to have a good time. He did so and pushed the wall over a number of times. We filled the cistern up and seeded the earth above it down nicely.

On the north side of the upright we put a porch the whole length, and another on the west side, with a bay window over a big window in the sitting room. All the small glass windows were replaced with larger sized glass and blinds were put up at all windows. When painted white with blinds of green, one would scarcely have known the old place.

Chinked in between the work of making over the old buildings we had been doing some other little jobs such as grading up the yard about the house, setting out trees and shrubs. Our oldest boy was getting to be quite a lad by this time having seen his ninth birthday. He held a number of the little hard maple trees we planted in the front yard while I shovelled in the earth and packed it down about the roots. These trees are now ten inches in diameter and as beautiful as one could ask for.

Still further to bring the old place around so that it would suit us, we moved the wagon house to a location east of the dwelling house and put up near it a pretty little ice house and milk room. A little farther to the south we put up a granary which grandfather called the "best job we have ever done." A number of hen houses, made at different times, give the place quite a citified appearance. All these buildings have been kept painted, as we think this adds to the keeping quality of the lumber and at the same time makes for beauty.

Continued on page 21.

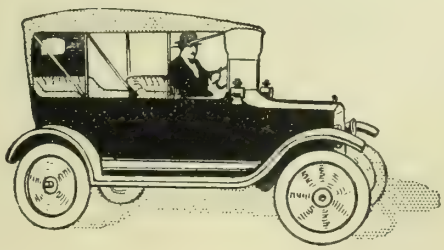
Costs No More Than a "Span"

It seems almost impossible, but it is true that you can get a handsome, comfortable, speedy 5-passenger Ford motor car for no more than it would cost you for a span of good driving horses, a carriage and harness.

The initial cost of a Ford car is so small that every progressive farmer can readily purchase one.

And who wouldn't rather motor to town, to church, to the railway station, to the neighbor's, than drive?—especially when it is three times as fast to motor, more comfortable and less expensive.

The low cost of running the Ford makes motoring possible for the masses, where it was formerly a rich man's luxury. It makes motoring a matter of good business, especially for those whose time is valuable. And with labor so scarce no one needs the time-saving Ford so much as the busy farmer!



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34

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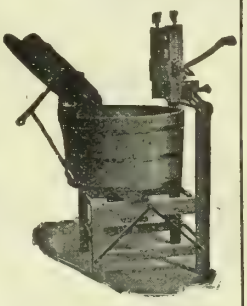

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Established in 1881 **OTTAWA, ONT.**

By GENEVIEVE

War That Drives Men to Destroy Life is Forcing Women to do and Value Aright the Work That Conserves Life

A LEADER of Frenchwomen has said that the future of the nations will depend largely upon the attitude which women now take to their new obligations. It will mean coming up hard against a lot of old conventions, giving a few hard shocks to established forms outlining what a woman may and may not do without sacrificing her "womanliness," but if to be womanly means to strike an average and be as like the majority of women as possible, womanliness is a quality not worth thinking about. "Little will be accomplished in the name of womanliness until we recognize that it requires some test of moral fibre, the overcoming of a great deal of mere average ordinariness.

There is considerable encouragement, however, in the fact that in all the world's moral progress, the really effective results have generally come by shock or resistance to some cherished convention of the day, and many things that a woman might do which would seem "unwomanly" at their first performance would be considered womanly enough when you see their results at long range. When Florence Nightingale volunteered to go out and nurse in the Crimea, her friends argued that she was exposing herself to an experience "incompatible with womanly modesty." She came back the one conspicuously successful general of that weary and profitless campaign. Her health was shattered, but she had done the pioneer work in establishing a public feeling of respect and admiration for the nursing profession. To-day the whole world takes off its hat to the woman who faces the hradships of Red Cross nursing.

From our Kitchen Window last month we had a glimpse of one man's philosophy of the things that go to make a complete life,—Work, Play, Love and Worship. These are going to require a lot of readjustment in rural communities during the next few years, and they present some new problems for women.

We have heard, from various sources, during the past two years, that women on Canadian farms could take up the work that their husbands or sons or brothers had been doing, and so relieve men for military service, as the women in Europe have done. Apart from the poor economy of this method, if it were possible to try it out, we cannot afford to overlook the truth that there are certain kinds of work which a woman cannot do without serious physical risks. Systems of farming here differ from those in Europe, and even while machinery has been adapted to take the place of the limited man-power in Canada, much of this machinery is not suitable for women to run. Even the constant jarring of heavy riding implements day after day is not safe.

There are many little superficialities that we can cut out of our housekeeping, however, leaving time for a more economical and productive system. Our embroideries and tatting might well be put away while we grow some things to eat in our kitchen gardens. We can cut the iced cakes out of our bills-of-fare, and put up a supply of canned vegetables for the year. We can investigate the business of making some money from a side-line like poultry, gardens, bees or flowers—especially in a home where there are girls. But we cannot afford to let our homes become less desirable places to live in; we know that homes kept clean and lovely have done the world more good than whole books of sermons.

Play in our rural communities has been sadly neglected. In a survey of four hundred and fifty farm homes last year, none of the boys played in league games. Replies from fifty-three young men in the district showed that eighteen found their amusement at public dances, twenty at parties in their homes, ten went to a summer amusement park to enjoy the "Figure Eight" or a trip to Buffalo; five had literary societies. There were no athletic societies, no swimming pools, no team games, no orchestras or choral clubs, no drills, hikes, excursions, amateur plays, or skating rinks. In one community devoid of any good public recreation, four young men were brought before the magistrate for a case of unprecedented rowdyism. The boys came from respectable homes; their excuse for their conduct was that they "did it for fun." It is more than likely that the incident would never have occurred if they had had some legitimate channel for the expression of their over-exuberant spirits. Through the church, the Women's Institute, or by the efforts of individual women in their own homes, the play element on sane lines can be developed in the country districts.

Events of the past few years have given a new interpretation to what was once considered a woman's best emotional expression. Since the mother instinct has reached out past her own little flock, to care for other women's children in arranging to bring Medical Inspection to rural schools, to apply for special classes for defectives, to be not content with keeping a wholesome atmosphere in her

"own" home, but to make the whole community cleaner and safer for every child, the old ideal of "a woman's place being in the home" looks sadly inadequate. The common suffering in a great cause is also making the best type of home no longer a place with doors closed except to the family and select guests. The world never before, has had so many people lonely and needing companionship and sympathy, and the times are crying for more of the grace of Christian hospitality.

And the fourth human need is worship, to gain through work play and love, a glimpse of God. The times are disturbing and many have been sorely tried; it remains with the rest to keep the fires alive on the altars. Also we have soldiers returning. Their nearest approach to a church for months, has been a Y.M.C.A. tent somewhere back of the firing-line where reading and games and hot coffee have taken a first place in filling the need of the hour. If the rural church at home is going to hold these men, it will have to put on something more alluring than a mid-week prayer-meeting. It may even mean that the church which becomes a live force in the community will have a gymnasium and moving pictures and social nights every week, and much of the responsibility will rest with women.

So the old order is changing. Of the woman who fills our ideals to-day, we can say:

"She will bring strength to aid the larger plan,
Wisdom and strength and sweetness, all combined
Drawn from the Cosmic Mind—
Wisdom to act, strength to attain,
And sweetness that finds growth in joy or pain.

To motherhood she will bring common sense—
That most uncommon virtue. She will give
Love that is more than she-wolf violence
(Which slaughters others that its own may live,)
Love that will help each little tendril mind
To grow and climb;
Love that will know the lordliest use of time
Is training human egos to be kind."

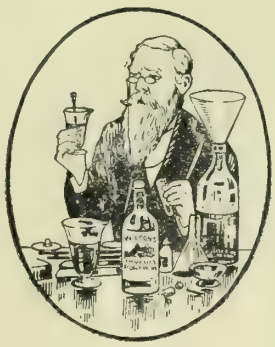
What Happened to an Old Farm

Continued from page 18.

One good thing accomplished by these changes was to give us a deeper cellar. I have bumped my head more times on low beams in the cellar than a few. But now a tall man can carry a crate of potatoes down into that cellar and not hit anywhere. We took up the old drain and laid down a new one, which has given us a cellar bottom which is always dry. Plenty of light comes into this cellar, and we can ventilate it so that no bad smells ever come from the vegetables up into the living rooms.

It sounds easy to sit and read of all these things now; but we got many a hard knock, and often our shins were sore from top to bottom. But how we did sleep! No more lying awake to hear the clock strike as in the old office days. We

Continued on page 33.



The Man Behind the Product

Years of patient research and countless experiments were necessary to perfect the matchless combination of rich Oporto Wine and Extract of Cinchona (according to the British Pharmacoepia and French Codex) found in:—

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INVALIDS' PORT
(à la Quina du Pérou)

20

BIG BOTTLE ASK YOUR DOCTOR ALL DRUGGISTS

Early Spring Fashions

Smart and Wearable New Styles in Frocks, Hats, and Children's Wear

8461.—Ladies' Dress. Having high or regulation waistline, a lining in high or open neck, one-seam sleves in full or shorter length, and a straight one-piece skirt, in clearing or shorter length. In size 36 the skirt measures 3 yards at the lower edge and requires 7½ yards of 36-inch, 6½ yards of 42-inch if made of one material and full-length sleeves, ⅞ yard of 36-inch lining and ⅞ yard of belting 2½ inches wide; or 5⅛ yards of 36-inch material for waist, short sleeves and skirt, with ⅝ yard of 21 or 36 inch all-over lace for yolk. As shown, the medium size requires 5⅛ yards of 36-inch foulard for dress, ¾ yard of 40-inch chiffon for sleeves, ⅝ yard of 36-inch satin for yolk, and ⅜ yard of 36-inch net for standing collar and chemisette. Price, 15 cents.

Sizes 34, 36, 38, 40 inches bust measure.

8467.—Ladies' Dress. With slightly high waistline. Having a removable chemisette, one-seam full-length sleeves and a two-piece gathered skirt in clearing or shorter length. Cuffs and pockets may be omitted. In size 36 the skirt measures 3 yards at the lower edge and requires 4⅝ yards of 36-

8461

8467

8460

8460.—Ladies' Dress. Having a removable chemisette, a lining with one-seam sleeves, an overblouse closed at shoulder and underarm, a three-piece foundation skirt and a one-piece gathered overskirt. In size 36 the skirt measures 2¼ yards at the lower edge and requiries 7⅝ yards of 36-inch, 6⅞ yards of 42-inch, or 5¾ yards of 54-inch if made of one material and full-length sleeves, with ⅞ yard of 36-inch lining. As shown on the figure, the medium size requires 2⅝ yards of 54-inch broadcloth for tunic and overblouse, 3½ yards of 36-inch satin for collar, sleeves and skirt. Price, 15 cents.

Sizes 34, 36, 38, 40, 42, 44 inches bust measure.

inch. 4⅝ yards of 42-inch, or 3½ yards of 54-inch material, with ⅞ yard of 36-inch material for waist lining. Size 36 requires 3½ yards of banding for collar, cuffs, pockets and a girdle. As shown, size 36 requires 3½ yards of 54-inch gabardine for dress, ½ yard of 36-inch satin for collar and cuffs, with 18 yards of braid to trim skirt, girdle, pocket laps and waist. Price, 15 cents.

Sizes 34, 36, 38, 40, 42 inches bust measure.

8052. — LADIES' BOX-PLAITED DRESS. In clearing or shorter length. Having a removable chemisette and one-seam full-length sleeves. Size 36, the skirt measures 3½ yards at the lower edge and requires 7⅜ yards of 36-inch, 6⅜ yards of 42-inch, or 4¾ yards of 54-inch if made of one material. As shown, size 36 requires 7¼ yards of 36-inch taffeta for dress, ½ yard of 36-inch chiffon cloth for collar, with 2 yards of silver ribbon for girdle. Price, 15 cents.

Sizes 34, 36, 38, 40 inches bust measure.

8600.—LITTLE GIRLS' DRESS. In open neck and having body in one with the short sleeves in either of two styles and held in by gathers

Continued on p. 26.

An early Spring hat.

8052

8600

8592

"ROCKFAST" DRILL

"Made in Canada"

For Active Canadian Workmen and Live Canadian Boys

When you make a man's working shirt, or a blouse or pair of knickers for your boy, out of "ROCKFAST" DRILL, you have a garment that will stand almost anything. Without being stiff or too heavy, it is wonderfully strong and durable—close and even in weave—free from flaws and weak spots. It is the best and most satisfactory material you can get for these purposes.

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What Sort of Man is Your Boy Going to Be?

REMEMBER the days when youth spread out for you the accomplishments of life, how often you wished you could play the piano. Don't let YOUR boy only WISH. Let your foresight enable him to reach into the deep stores of life and bring forth more of the warmth of heart that music gives to all.

Now, while he is young, alert and quick to learn new things, is the time to commence his enjoyment of music.

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New Scale
ENDORSED BY GREAT MUSICIANS

is your assurance that his ears will acquire a correct foundation and appreciation of music. In homes everywhere throughout the country little ears are being guided in the mastery of good music through the perfect, lasting tone that distinguishes Williams Pianos.

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Dept. X, Toronto, Canada

Easier Laundry Methods

How a Little Chemistry Saves Work and Gives Better Results

By GENEVIEVE

WASHING WITH PARAFFINE.

UNTIL you have tried it you will never know how easy it is to get the dirt out of the dirtiest clothes by the use of paraffine. Paraffine dissolves dirt very readily, and if combined with sufficient soap will not settle on the clothes unless the temperature falls to the congealing point of wax. It is very important that the water should be soft, or softened with an alkali like washing soda, otherwise the hardness eats up the soap, leaving the paraffine free to settle on the clothes. It is also important that the water in the tub should be almost hot.

The method for paraffine washing is as follows: Shred one cup paraffine and one-half pound soap in one quart of soft water, and put into a boiler of hot soft water. If the washing is of three or four boilerfuls, prepare twice this amount and use half for the first boiler and the remainder for the others, not changing the water. Wring the dirty clothes from cold soapy water and boil twenty or thirty minutes in the paraffine water. Turn into a tub of hot soft water or washing machine, wash, rinse and blue. Clothes washed with paraffine iron very easily.

SIMPLE METHODS OF REMOVING STAINS.

Any housekeeper will find it a wonderful convenience to keep on hand a bottle of bleaching solution or Javelle water. This can be made easily at home. Take one-half pound chloride of lime, two pounds washing soda, and two quarts boiling water. Empty the lime and washing soda into a basin. Pour on boiling water until all lumps are dissolved. Let it settle, strain through a cheese-cloth and bottle tightly. When fresh, dilute with three or four times its volume of hot water; when old use full strength. After washing a stain in Javelle water, wash the article carefully in clear water, or an alkali stain may remain. Of course use only on white linens and cottons.

For particular stains special remedies may be used:

Ink stains, when fresh, will usually come out by soaking in sour milk or buttermilk. On woollen goods, or carpets ink can be best scrubbed out using salt and vinegar alternately. On white linen or cotton, alternate treatment with lemon juice or oxalic acid and bleaching solution gives quick results. Fresh stains from indelible ink may be removed by using salt and concentrated ammonia.

Iron rust stains yield most readily if rubbed with salts of lemon, or with salt and lemon juice and the spot held over the steam from the spout of a boiling teakettle.

Mildew stains should be dipped in buttermilk and spread in the sun, or soaked in strong soapsuds and sprinkled with salt in the sun. If in a hurry, let the article stand in a solution of Javelle water (about one-half cup to a quart of hot water) until it bleaches.

Blood stains should be washed out as well as possible with lukewarm water, then use soap. If the stain is old, soak in strong soda or borax solution. If scalded in nothing but bleaching solution will remove them.

Paint can generally be washed out with turpentine. On white wash goods boil with kerosene and soap. On goods of a delicate color use chloroform.

Pitch, tar and machine oil stains come out most easily if rubbed with lard and allowed to stand for a few hours, then washed with gasoline or with thick soapsuds.

Grass stains also may be washed out more quickly if rubbed with lard and allowed to stand for a few hours.

Yellowness or old age stains should stand in soap suds for a day or two, and if the water cannot be left in the sun, warm it up occasionally. Then bleach in the sun. March and April are the best months for bleaching on account of the hot suns by day and the frosts at night.

WASHING CURTAINS AND WOOLLENS.

Now that the spring cleaning season is about due, it will be of interest to know that the greater part of the soil in curtains which have been hanging for some time is smoke or creosote, and that this is dissolved readily by turpentine. Do not soak the curtains in hot water as it sets the smoke. If they are first soaked in cold water to which a little turpentine has been added, or if turpentine is added to the warm water in the tub, the curtains will come out beautifully white with little scrubbing. Very fine curtains are better put in a bag or pillow case before boiling to avoid tearing.

To keep the fibres separate and soft, and to avoid shrinking woollen blankets, underwear, etc., avoid hard rubbing, hot water, leaving the goods a length of time wet, rubbing on soap using too strong suds or any strong alkali. First shake the articles well to remove dust, wash in warm soapy water using melted soap, or for very fine woollens use Lux. Melted soap is made by shredding common soap, covering well with hot water, and letting stand in a warm place until it is dissolved. Wash woollens as quickly as possible, kneading and squeezing rather than rubbing. Wash in a second soapy water if necessary. Rinse in warm soft water of the same temperature, and use a second rinse if necessary. Wring well, unless a very loose weave when the garment should only be pressed. Shake well to remove moisture and separate the fibres, stretch well into shape and dry quickly, but not so quickly that the steam rises.

RECIPES ARE GOOD.

"Tell the editor of the Women's Department how much I appreciate the magazine. I tried your recipe for Scotch bread and fruit cake and it was charming."—Mrs. J. N. G., Ontario.

God's Green Country

Continued from page 10.

For the first week he drove all day from one school to another, distributing settings of eggs and seed potatoes, and leaving with the children such scientific information as they might apply in directing the increase thereof. In the evenings he talked late with labor-harassed farmers who came to get him to negotiate for hired men, and remained to discuss other less urgent matters. As soon as he could see a free evening ahead, he phoned Miss Evison to ask if he might call.

He heard a dozen receivers come down while someone went to bring her, and when her voice did come over the wires the clear, smooth staccato was not reassuring. It had the ring of a woman with much business to despatch, but who hadn't yet learned the art of handling each case whole-heartedly.

"Mr. Withers?" she repeated with doubtful inflection, then, "Oh, yes, I do remember. I believe I had you confused with someone else."

This was less complimentary than puzzling, since the local papers had advertised widely the coming of the new Agricultural Representative, in one case, by some strange accident, directly following an account of Miss Evison's card party in the "society column."

She would be glad to see him, however; the difficulty was just to find an evening free. She counted over her engagements beginning at the end of the week and working back, and decided she could give him the next evening. He came away from the interview grateful, but unhappy. Two things troubled him. When she could be so charmingly cordial, why did she ever assume that tantalizing aloofness which made a man wonder how much discomfort his attention was giving her? And why, when she must have known who he was, did she pretend to have forgotten? To his simple standards of honesty it was disappointing. Then he reflected that he didn't understand girls—that, of course, a girl of her popularity must be bored to death with cases like his own and had a right to use her own methods of defence.

It was a maid in uniform who admitted Billy to the Evison home and ushered him into a parlor to wait for Miss Marjorie. As it was his first experience with this formality he was a little embarrassed. The room itself was not just fashioned to put any one at ease. He didn't know much about house furnishings, but he judged from its fantastic twistings and carvings that this was copied from some antique historic period. He knew also that it must have cost about as much as he would have to spend in equipping a whole house. A level shaft of warm, yellow light from the sunset came through the curtain and touched a vase of long-stemmed jonquils, but the highly cut points of the glass caught the light and splintered it into a dazzling spectrum, leaving the delicate beauty of the flowers pale and lifeless.

Somehow the picture remained strangely in his mind when Marjorie came. There was something dazzling about her, just as there had been when she played a local magnet in the college ball-room, and it seemed to outshine the natural girlish sweetness which by reason of his own ideals and his lover's interpre-

Continued on page 45.

K

KNOX SPARKLING GELATINE
QUALITY *and* QUANTITY

"WHAT to have for DESSERT and SALAD" is answered in a variety of ways by our beautifully illustrated recipe book. "Dainty Desserts for Dainty People."

In this book (sent you free) I have included some delightful surprises in recipes for easy-to-make Salads, Desserts and Candies that are most economical. Below is a recipe for a delicious and economical dessert.

Each package of Knox Sparkling Gelatine will make enough jelly to serve twenty people, or it is so easily measured that one can make an individual dish.

Mrs. Charles B. Knox
President

KNOX ORANGE JELLY

1 envelope Knox Sparkling Gelatine. 1 cup sugar. 1 cup orange juice. ½ cup cold water. 2 cups boiling water. 2 tablespoonfuls lemon juice.

Soak gelatine in cold water five minutes, and dissolve in boiling water. Add sugar and stir until dissolved; then add orange and lemon juice. Strain through cheese cloth into molds, first dipped in cold water, and chill.

NOTE—If desired, add fresh or canned fruit or chopped nuts when making. Serve with or without whipped cream.

Recipe Book FREE for your grocer's name. If you have never used Knox Gelatine, enclose 4c in stamps for pint sample.

CHAS. B. KNOX GELATINE CO., Inc.
Dept. H, 180 St Paul St. W., Montreal, Can.

The Value of Horses

depends largely upon their freedom from defects. Keep your horses free from gall sores. **VENTIPLEX** Shoulder Pads will enable you to do this. They prevent and cure gall sores by removing the cause. These pads give comfort to horses and add to their length of life and service.

VENTIPLEX PADS are made of a patented fabric that is very durable and easily washed.

Get Ventiplex Pads of all kinds from your dealer and keep your horse free from irritation and sores.

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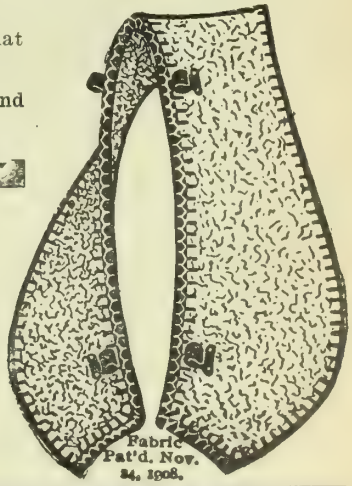

Cultivate The Cheerful Outlook

A pessimist is often described as a man who, when looking at a barrel, can discern nothing but the bunghole. In more homely terms, he is a man whose mental vision has become so obscured that he can see little but ruin and misery all around, whilst his estimate of his fellow-beings is invariably harsh and unjust.

It is a remarkable fact, however, that few persons who enjoy consistent good health are pessimists. Health and optimism seem to go hand in hand. They grow out of each other. Instances of cheerfulness under continual suffering are, however, by no means rare, which proves that some persons are endowed with minds that rise above bodily conditions. But it may be taken as a general rule that, with most people, ill-health destroys cheerfulness and induces chronic pessimism.

It naturally follows, that when a person finds his outlook becoming doleful, he should look into the condition of his health. This feeling of gloom and depression is one of the most certain symptoms of stomach disorder. A simple remedy lies ready to hand in Parmelee's Vegetable Pills, whose remarkable success in overcoming derangements of the digestive organs has become widely known in all parts of Canada.

There are, of course, other symptoms besides a feeling of depression which clearly indicate a disordered condition of the stomach and bowels, such as: Nausea, dull and sick headache, loss of appetite, sharp pains in the pit of the stomach, bad taste in the mouth.

When any of these symptoms appear, procure a box of Parmelee's Vegetable Pills from your dealer or any drug store. In most cases, when taken early, these wonderfully effective pills prove a speedy and permanent remedy. The secret of their success lies in their direct action in restoring that even flow of bile which alone can give a proper tone to the stomach. And while they are doing this they also exert a gentle action on the intestines which results in the relief of constipation.

No person can afford to neglect the warnings that nature gives by symptoms of disease. Early attention is imperative. But avoid harsh purgatives which may do more harm than good. Take Parmelee's Vegetable Pills. Their composition is a scientific formula of proven worth and their best advertisement consists in the thousands of persons to whom they have restored good health and the cheerful outlook that makes life so full of happiness.

At all Dealers and Druggists
Price 25 cents a box
Made only by
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TORONTO, ONTARIO

Holstein Cows Excel All Others
Proof is found in 100,000 Official Tests
FOR MILK, BUTTER AND CHEESE
No Other Breed Can Equal Them
For The Production of High Class Veal
When age or accident ends their usefulness
Holsteins Make a Large Amount of Good Beef
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LAKESIDE AYRSHIRES
A few young bulls for sale from Record of Performance dams, imported and Canadian-bred, sired by Auchenbrain Sea Foam (Imp.) 3575S, grand champion at both Quebec and Sherbrooke. Write for catalogue.
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D. McArthur, Mgr., Phillipsburg, Que.

County Boards of Agriculture

Join a Farmers' Movement

The wide-awake young or older farmer finds it to his best interest to link up with his nearest association of brother farmers. There are movements in every province that need the help. Moreover, other business men have their associations where the good of the order is discussed, and while farmers are notorious for their ability to break into scattered groups, there is no reason why a central body should not be supported to carry on the political and commercial actions so necessary in getting a square deal.

Of all classes, the agricultural looks best upon world movements. They like to live and let live. They seek few favors. They demand only the right of free markets in an unfavored commerce. The high cost of living may press hard upon city people, who prefer to eat margarine instead of butter, but the high cost of production due to national economic laws shapes from the farm price the greater part of the extra reward. Farmers do about as well in periods of low prices as they do in periods of high prices, for the margin of production moves up and down correspondingly.

The trouble with this old world is that too many people want to be middlemen, with an eye on the small per cent. rake off per item of goods handled. And while middlemen are needed, their increase is always greatest in periods of hard times and high prices. Take a lesson from Ireland.

What Some County Men Have Learned

J. E. McRostie, in Grenville County, Ontario, has interested 17 young farmers in the short courses in the township of Wolford.

Caledon public library has asked J. W. Stark, district representative, to give a list of agricultural books so they can purchase them for their library.

The value of co-operative marketing of poultry was well illustrated by W. H. Smith, district representative of Leeds County, Ont., when they obtained 16c. a lb., live weight, for chickens over 4½ lbs. Quality work is stimulating others to better production. The Lansdown fattening station have 1,000 hens and 500 cockerels in the crates.

E. P. Bradt, of Dundas Co., says that the young men who have had practice at the four weeks stock judging course are very anxious to take every opportunity of getting more experience in stock judging. Before the longer courses were held in the district it was practically impossible to get enough young men to take part in a judging demonstration to be able to conduct one at all.

The owner of the demonstration orchard near St. George is selling $800 worth of apples from 3 acres.

G. B. Curran, of Napanee, did some good work this year in experimenting with flint corn. As this was a poor corn year his conclusions are valuable. An 8-rowed yellow corn called Gold Nugget showed much better than the King Philip for the south part of the county.

The Manitoulin Co-Operative Shipping Association sent out their lambs this year for 9 cents a lb., as against 6½ and 8c. to others. They shipped many young cattle to Pennsylvania.

Charlie Wright, of Wabigoon, New Ontario, got a dozen eggs from the Department of Agriculture in 1915, from which he raised 5 pullets. This year he has 60 as good birds as one would wish to see, says L. H. Hanlan.

Drawing Crowds to a Fair.

The Fall Fair at Picton, Ontario, is widely known as one of the best in the province. At the annual provincial meeting of the Fair Boards, H. P. McVannel, District Representative of the Department of Agriculture gave the following as some of the reasons for its success. The town is fortunate in having good grounds and buildings with a rest room. The fair lasts three days, the exhibits being open for inspection from noon of the first day until five o'clock the third day. This arrangement is likely to insure more fair weather and larger gate receipts than where the fair is held for a shorter time. The board makes a point of securing expert judges. Special exhibits are brought from the Agricultural College, Experimental Farms and from the local branch of the Department of Agriculture, and special attractions are afforded in the way of a band concert and a baby show. Prizes are also given for the best decorated automobiles. In planning for special attractions it was decided that people seem to appreciate music more than any other one line of entertainment so a Highlander's band is brought from Toronto. Advertisements are run in the local papers for about four weeks in advance of the fair.

Spring Fashions

Continued from page 23.

at each side. Size 4 years requires 1⅝ yards of 32 or 36 inch, or 1⅝ yards of 42-inch material. As shown on the figure, size 2 years requires 1½ yards of 36-inch voile for dress, 4 yards of lace insertion, 1½ yards of lace edging for neck and sleeves, with 3 yards of velvet ribbon to trim. Price, 10 cents.

Sizes 2, 4, 6, 8 years.

8592. — GIRLS' DRESS. — With removable shield. Having box plaits laid in, one-seam sleeves in full or shorter length and worn with a sash or girdle or belt. Girdle not given. Front closing. As shown on the figure, size 12 years requires 2⅜ yards of 40-inch albatross for dress, ⅜ yard of 36-inch linen for collar, with 1½ yards of satin ribbon for sash. New Idea Transfer 279 was used for embroidery design on sash. Price, 15 cents.

Sizes 6, 8, 10, 12 years.

PLEASED WITH JANUARY ISSUE.

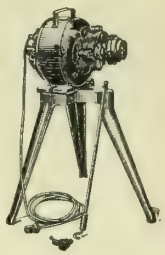
"I am delighted with your New Year's issue. I congratulate you on securing the excellent work of Miss Chapman in her "Gold's Green Country," and all the other good things."—J. E. Olmstead, Ontario.

Saves Money, Time Labor

Electricity on the farm gives you the great advantage of clear, clean, brilliant, convenient light. But over and above all that, it saves money, time and labor. Delco-Light will shortly pay for itself in money and time saved.

With Delco-Light you save the time of cleaning lamps and lanterns. Housework and chores are done more quickly because of better light. In addition, Delco-Light power will do the milking, separating, churning, washing, water-pumping, feed-cutting. Allowing only 10c an hour for labor on your farm, Delco-Light will save you at least $127.40 a year.

Compact, Sturdy Motor



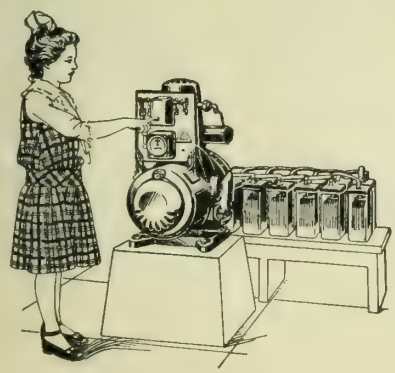
This is the Delco-Light Powerstand—a portable, efficient little electric motor that will run from any light socket. Runs all your light machinery and can be carried anywhere. Economical of current.

DELCO-LIGHT

ELECTRICITY FOR EVERY FARM

Easy to Operate, Economical, Safe

Simplicity is the key-note of the Delco-Light plant. It is easy to understand, easy to operate. A child can attend it. It consists of gasoline engine, generator, switchboard and batteries. Self-Starting, it stops automatically when its work is done. Gasoline consumption is small—and it is absolutely safe. Price of No. 208 is $390 and No. 216 is $465.



Write Today Get the complete Delco-Light story. We have published books covering every point. Send your name and address on a postcard.

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Distributor
168 Bay St., TORONTO, Ont.

Domestic
Engineering Co.
DAYTON, Ohio.

THE BEST LINIMENT
OR PAIN KILLER FOR THE HUMAN BODY
Gombault's
Caustic Balsam
IT HAS NO EQUAL

For the Human Body —It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons, Exterior Cancers, Boils Corns and Bunions CAUSTIC BALSAM has no equal as a Liniment.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

A Perfectly Safe and Reliable Remedy for
Sore Throat
Chest Cold
Backache
Neuralgia
Sprains
Strains
Lumbago
Diphtheria
Sore Lungs
Rheumatism
and
all Stiff Joints

REMOVES THE SORENESS--STRENGTHENS MUSCLES
Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than $120.00 paid in doctor's bills." OTTO A. BEYER.
Price $1.50 per bottle. Sold by druggists, or sent by us express prepaid. Write for Booklet R.
The LAWRENCE-WILLIAMS COMPANY, Toronto, Can.

The Lankford HUMANE HORSE COLLAR
cures your horse while he works
Galls and sore shoulders reduce the efficiency of your horse—sap his strength—down his spirit. Cure him without the use of medicine—while he does his heaviest work, with the Lankford Collar.
We guarantee a cure when properly fitted. Be careful and get the genuine Lankford Collar—made of best white sail duck, trimmed in extra heavy leather and stuffed with clean and downy curled cotton, medicated, which will not pack or harden. Also comes in special brown waterproof duck.
Trade Mark
The Lankford fits any shape neck—easily put on or removed—always soft and pliable. Will not sweeny. Hame straps attached. Prices $1.75 and up. See your dealer.
$1.75 up
Over 12,000,000 sold
Lankford Collars prevent galls and sore shoulders, as well as cure them. Get one today—one for each horse, but be sure it's a Lankford.
Buy a Lankford
Send postal for copy and of our literature on Lankford Horse Collars.
Powers Mfg. Co.
Waterloo, Iowa

Cure Your Horse While He Works
TRADE MARK
Bickmore's Gall Cure
Quickly heals Harness and Saddle Galls and minor wounds on horses and cattle—no layoffs. Money refunded if it fails. Ask for—get—the genuine. See "Work-Horse" trademark. 25c, 50c or $1 at dealers or postpaid by us. Trial box and Farm Account Book, 10c. Write today.
Wingate Chemical Company
652 Notre Dame St. West, Montreal, Can.

About Live Stock

U.S. Cattle Marketings.

Markets.	1916	1915
Chicago	3,249,800	2,684,973
Kansas City	2,331,467	1,963,498
Omaha	1,434,304	1,218,342
St. Louis	1,200,330	991,709
St. Joseph	479,946	441,471
Sioux City	601,667	534,154
St. Paul	941,224	855,589
Denver	601,460	424,341
Fort Worth	1,080,523	944,431
Buffalo	395,109	362,229
Totals	12,315,830	10,420,747

Net increase 1,895,083 (18.18%).

Chicago Livestock.

The official valuation of livestock received at Chicago Stock Yards in 1916, compared with 1915, is as follows:—

	1916.	1915.	Increase.
Cattle	$244,453,854	$192,116,472	$ 52,337,382
Calves	7,716,412	5,714,075	2,002,337
Hogs	186,155,762	120,349,047	65,806,715
Sheep	24,313,175	23,004,562	11,308,613
Horses	36,980,820	29,754,000	7,226,820
Totals	$509,620,023	$370,938,156	$138,681,867

Handling Cracked Heels.

"When I was practising in York County," remarked D. F. Young, V.S., "I used to advise farmers who had horses with rough and sore heels caused by the wet and cold, to pull on an old stocking over the hoof and after pouring in some linseed meal to tie the stocking around the leg above the fetlock. This had a soothing effect, and often prevented much stubbornness in healing."

The Bacon Hog.

A recent bulletin prepared by John Bright and H. S. Arkell on the bacon hog advocates the continual production of the bacon hog instead of the "in hogs to-day and out of hogs to-morrow" policy. Some tables showing the movement of prices from 1890 onward in an admirable series of charts prepared by P. E. Light, are appended. Every farmer should send for a copy to Ottawa.

3,000 Cotswolds Recorded.

F. W. Harding, secretary of the American Cotswold Registry Association, reports that 3,000 sheep were recorded last year. He looks for a strong demand for good rams this coming season. He has made entries for the Salt Lake Sale in Utah.

Barley for Steers.

J. D. McGregor, of Brandon, advocates the raising of barley for feeding purposes in Western Canada instead of merely as a cleaning crop. He claims it will be found as economical and profitable as corn. The West should market its cattle from 18 to 24 months of age, weighing from 1,300 to 1,400 lbs.

Rape for Hogs.

The rape plant is one of the best forage plants the hog raiser can find and one of the easiest to grow, says a breeder of Poland Chinas in Kentucky. An acre of Dwarf Essex rape will carry from 30 to 60 pigs and when fed grain they will only require about one-half the feed that they would without rape. In this way it is not only health-giving to the pigs and aiding in their growth, but it is cheapening the feed and improving it, as the two together are much better than either one separate.

The rape should not be pastured until it is a foot or more high, and if a large number of hogs are pastured upon it, another patch should be planted to change the pigs off on.

The pigs do not take to rape at first, they are a little shy, but as soon as they

The Inter-County stock judging contest at their finals, Union Stock Yards, Toronto. Dundas County boys were the winners by some 75 points. York County and Dundas County boys are in the front of the picture, while several prominent livestock men will be noted in the group.

get a taste of it, they learn to eat it very greedily and with much satisfaction.

The pigs will not gain on rape, unless some grain or slop is given them in addition.

Plow the ground deep. Thoroughly disc or harrow it and sow 5 to 6 lbs. per acre broadcast.

Essentials for a Good Colt.

Let the brood mare be as near a model as possible in some respect; then, if the sire is wisely selected, not forgetting his ancestry, you may expect a colt which will pay for the raising, but not otherwise. Any old hack will not do for a brood mare.

A Dark Brown.

"Life on a farm was a pretty dark brown proposition to the boy who spent all his time forking straw to unthrifty cattle, not knowing why he did it, but hang a $100 prize in front of him for a well-fed calf and things looked very different."—J. D. McGregor.

Live Stock in Great Britain.

	1915	1916
Cattle	12,130,775	12,412,221
Sheep	28,182,088	28,053,825
Swine	3,783,994	3,605,229

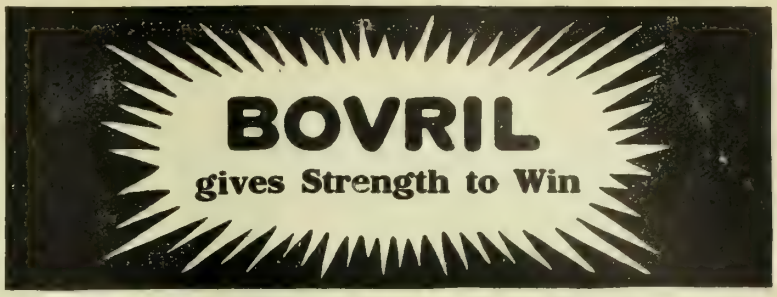
It will be noted that sheep have decreased 128,000 in the year and cattle have slightly increased.

Killing Horses With Kindness.

When feeding horses the capacity of the digestive organs must be considered, says an exchange. The stomach of a horse holds about nineteen quarts, whereas the four stomachs of a mature cattle beast have a capacity for 266 quarts. The ruminant can digest roughage to much better advantage than can the horse. It is in the stomach where feed is softened and prepared for further digestion and absorption in the intestines. The horse is so constituted that it cannot digest properly a large quantity of roughage at once. Many feeders fail to realize this and pile the manger full of hay three times a day. In fact, we have been in stables where it was considered that horses should always have something to pick at. Some horses continue to eat if feed is before them, but sooner or later they are subject to disorders of the system. Heavy feeders of hay are literally killing their horses with kindness. It is much better for the horse not to be continually eating when in the stable. It has been estimated that one pound of hay to each 100 pounds weight is sufficient for a work horse. A rule followed by some is to feed what will be cleaned up in one and one-half hours. For heavy work less roughage and more concentrates should be fed than for light work.

Alberta Cattle at Chicago.

A record that is not likely to be again reached in range cattle sales was that attained at Chicago a few weeks ago when A. C. Cross, of Calgary, Alberta, sold 35 heads of 1,432 pounds strictly range beeves at the record figure of $10.75 to Jas. Brown, of Armour & Company, and 68 head, averaging 1,413 pounds, at what is the next record price of $10.40 per cwt., to Harry Du Plan, of Wilson & Company. These cattle were Hereford-Shorthorn grades and all horned. There were also



I want to tell you that WORMS more than anything else keep animals from thriving.

Why Pay the Peddler Twice My Price?

25-lb. pail, $2.25; 100-lb. sack, $7.00 (duty paid)

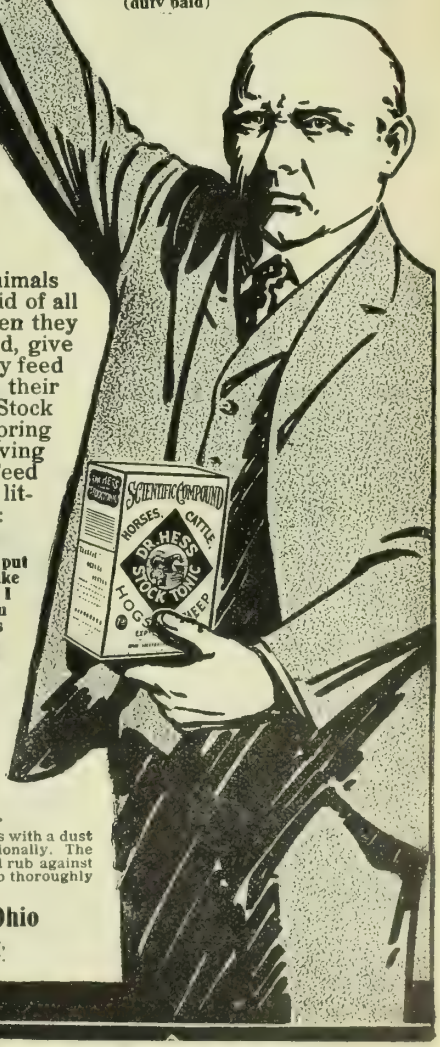
Dr. Hess Stock Tonic

Expels Worms

Spring will soon be here. Get your animals in condition. Start in now, first get rid of all worms with Dr. Hess Stock Tonic. Then they are in shape for you to enrich the blood, give them better digestions. Horses on dry feed are likely to have stocky legs—and their bowels need cleaning out. Dr. Hess Stock Tonic will get them ready for the hard spring work. Cows should have it before calving time and to prepare for full milking. Feed it to the brood sows, it will tell on the litter. This is the true live stock gospel:

CONDITION ALL YOUR ANIMALS NOW

So sure am I that Dr. Hess Stock Tonic will put your animals in a thriving condition, make the ailing ones healthy and expel the worms, that I have authorized my dealer in your town to supply you with enough for your stock, and if it does not do as I claim, return the empty packages and my dealer will refund your money.



Never peddled. Sold Only by dealers.

Dr. Hess Poultry Pan-a-ce-a

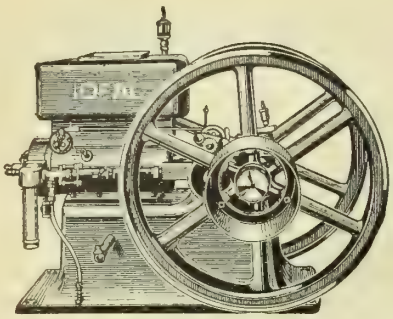
Feed it to your hens and get more eggs—more strongly fertile eggs. Weak parent stock is sure to give you weak chicks that cannot live. Chick diseases make greatest ravages on the weaklings. Pan-a-ce-a conditions, gives strength and vigor. Costs a penny for 30 fowls per day. 1½ lbs. 35c; 5 lbs. 85c; 12 lbs. $1.75; 25-lb. pail, $3.50 (duty paid).

Dr. Hess Instant Louse Killer

Kills lice on poultry and farm stock. Provide your hens with a dust bath, to which add Dr. Hess Instant Louse Killer occasionally. The hens will do the rest. For lice on stock, with one hand rub against the hair and with the other sift the Louse Killer. Rub thoroughly into the skin. 1 lb. 35c; 3 lbs. 85c (duty paid).

DR. HESS & CLARK, Ashland, Ohio

Write Dr. Hess about any live stock trouble, enclosing 2c stamp. He will advise you free.



Our Hopper Cooled Design

We have a catalogue waiting for you— Send for it.

Put gasoline costs in your own pocket

With a "Brantford" you can do this

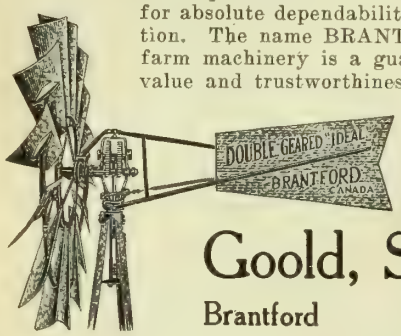
The "**Brantford**" all purpose farm engine runs on Coal Oil or naphtha. It performs equally as well on these as on gasoline. The saving made by eliminating the high cost of gasolene will go in your own pocket or very quickly pay for the "**Brantford.**" **The Brantford** is a dependable no trouble engine. It is a valuable help to farmers confronted with the labor problem. Get a "Brantford" and forget worry. Our Portable, Stationary, and Tractions have no equal for steady reliable performance. **The Brantford Line is a dependable line.** Each engine is guaranteed. Investigate "**Brantford**" advantages.

The "BRANTFORD" Windmill

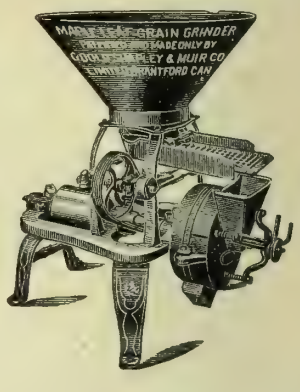
lives up to the "Brantford" reputation for absolute dependability and satisfaction. The name BRANTFORD on any farm machinery is a guarantee of full value and trustworthiness.

"BRANTFORD" Feed Grinders

are genuine money savers — they cut down feed expenses and give animals the full value from their feed.



Our Catalogue shows a number of labor-saving machines which will help you in your farming and labor problems. Ask us to send you one.



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FOXES, MINK, SKUNK

and all other Raw Furs. Highest Prices Paid. Liberal Grading.

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It will pay you to ship all your furs to a reliable house, where you get full market value. Ask for our price list and shipping instructions.

EDWARD POLLAK & CO.
280 St. Paul St. West, Montreal, P.Q.

38 heads of this strain which averaged 1,315 pounds and sold at $9.75 with 17 tailings averaging 1,362 pounds at $9.25, a no mean figure for tailings. Then there were 22 head of Galloway-Shorthorns that averaged 1,409 pounds and sold at $9.75. Thirty-seven head of cows and heifers of from 2 to 4 years old averaging 1,128 pounds, sold at $8, and 23 head averaging 1,104 pounds at $7.35.

It is quite needless to say that these cattle attracted wide attention in the yards. If anyone labors under the impression that they had had any feed, let it be understood that they had not had one bite of anything but range grass since the first year of their life. They had run on a range in Alberta controlled by Mr. Cross and two other cattle men and their sustenance was purely the native prairie grass. Mr. Cross maintains three ranches. These are his breeding grounds and here the cows and calves are kept until the latter having reached the yearling wastage, are turned out upon the range to grow into beef. It has been Mr. Cross's policy to blend the blood of the Shorthorn and Hereford. For two years these will be Shorthorns and the third year Herefords, repeating this method. With a new lot of bulls each year he is thus able to breed his sires to the same female cows for a succession of years and in this way inbreeding is avoided. Twelve years ago Mr. Cross purchased a small number of Galloway bulls which he bred to Shorthorn heifers, his idea being to infuse to succeeding generations a strain of this hardy blood. The 22 steers already mentioned selling at $9.75 were from the cows originating from this cross.

Upon the home ranches Mr. Cross raises some alfalfa, but largely native prairie and also oats and barley to take care of the cows and weaker stuff during the rigorous part of the winter. In this way the cattle get a good start in life and are able to go out upon the open range with a good foundation. They are marketable the third year as four-year olds. Quality of blood, hardiness of constitution and a good early foundation constitute the trinity upon which Mr. Cross pins his faith. The success of his methods could not be better illustrated than in the financial results of the above sales.—W. McD. Tait.

Bells on Sheep.

J. B. Cowieson, of Queensville, who always carries a few sheep on his farm, claims that the use of two bells of varying tones will frighten marauding dogs from the flock. He ties bells around the necks of two or three ewes and never suffered any losses except in a year when he neglected the bells.

Where Jerseys are Popular.

One difficulty about getting recruits for the Canadian Jersey cattle herd book is revealed in the situation of the many Jersey cattle breeders in the Eastern townships of Quebec near the Vermont border. It seems that the farmers living across the line in Vermont are members of the American Jersey Cattle Club and insist on registration there before purchases of the Canadian cattle are made.

And this little district carries a large number of Jerseys. "There are," said J. Lee Alexander, of Maplehurst farm, "perhaps more Jerseys in Quebec than cattle of any other pure breed. We have 250 on our farm and there are 60 members of our local club."

Big Ben

A *Westclox* Alarm

7 a.m.—

For the Rising Generation

BIG BEN at his best—at seven a. m.—opening little folks' eyes—there's a race to hush him—a pillow battle—merry laughter—and mother to tidy the kiddies for school.

Big Ben's little men bubble health and cheer, and they feel as big as Daddy with a clock all their own.

You'll like Big Ben face to face. He's seven inches tall, spunky, neighborly—downright good.

Big Ben is six times factory tested. At your dealer's, $2.50 in the United States, $3.50 in Canada. Sent prepaid on receipt of price if your dealer doesn't stock him.

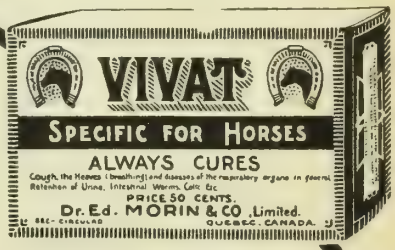
Westclox folk build more than three million alarms a year—and build them well. All wheels are assembled by a special process—patented, of course. Result—accuracy, less friction, long life.

La Salle, Ill., U. S. A. Western Clock Co. Makers of *Westclox*

Other Westclox: Baby Ben, Pocket Ben, America, Bingo, Sleep-Meter, Lookout and Ironclad

Saves Veterinary Costs

Two Preparations for Keeping Stock Vigorous and Well



VIVAT is a good friend to horses and saves the farmer many veterinary bills.

It cures Coughs, Heaves, Broken Wind, etc. Beneficial in cases of Colic, Intestinal Worms and Kidney Troubles. Special directions for each case. A great remedy for the Respiratory Organs. It also increases appetite, gives vigor, breath and endurance, specially to race horses and those travelling and working hard

OMAZON is a splendid stock food—entirely Canadian. It is a great invigorator and gives added endurance. Its nutritive qualities makes it a desirable food wherever stock is kept

It is a great blood purifier. It prevents and cures diseases, unequalled for increasing the quantity and quality of milk in mare and cow. Put it to the test and you will find it a great economy. When mixed with food it cuts down the usual amount of grain required. Remember the names VIVAT—and OMAZON.

Ask your merchant for our preparations.

Proprietors, DR. ED. MORIN & CO., LIMITED
Mountain Hill, Quebec, Canada

HINMAN
THE UNIVERSAL MILKER

The HINMAN Is A Safe, Efficient, Satisfactory and Comparatively Inexpensive Machine.

No Gauges, No Safety Valves, No Pulsators, No Metal Piping, Just Two Moving Parts.

Write for Booklet A It explains.

H. F. BAILEY & SON
GALT, ONTARIO

Produce More Feed

Sow Canadian Albotrea Clover. The Best of all the Sweet Clovers :: ::

When other clovers fail, it succeeds. When common clovers are winter killed, it lives When they are heaved out by the frost, it stays; and when they give their maximum yield, it doubles them. Live stock like it better, thrive upon it better, and their condition will show it. At the same time it is the greatest nitrogen gatherer of all the legume plants; the greatest agency for fertilizing and mellowing the soil and for choking out and eradicating noxious weeds. CANADIAN ALBOTREA has been grown as a domesticated crop for years. It has been improved by selection, and its merits fully tested by experience. There is only a limited quantity of seeds available, so write us for descriptive pamphlet and full particulars.

Canadian Albotrea Clover Co.
Limited
154 Bay Street
TORONTO - ONTARIO

The Business of Dairying

Cow Testing Pays.

How increases were made in livestock herds in one year:—

Herd	No. of Cows	Last Year's Yield lbs. Milk	lb. Fat	Increase per Cow lb. Milk	lb. Fat Milk	% Increase
A	9	7,309	260	3,528	132	93
B	17	8,625	275	2,970	90	52
C	5	9,445	300	3,216	108	51
D	9	10,118	339	3,049	100	43
E	10	10.197	333	3,541	114	53
F	16	10,391	360	2,762	114	36

From the Records of Performance.

	Over 1100 lbs. fat	Over1000 lbs. fat	Over 900 lbs. fat	Over 800 lbs. fat	Over 700 lbs. fat	Over 600 lbs. fat
Holstein	3	5	25	64	166	461
Guernsey		2	7	19	72	243
Jersey			6	17	40	161
Ayrshire			1	6	11	26

The leading cows of each breed for yearly production reported in the spring of 1916, are as follows:

Breed	Name	Milk	Butterfat
Holstein	Duchess Skylark Ormsby	27,761.7	1,205.09
Guernsey	Murne Cowan	24,008.0	1,098.18
Jersey	Sophie 19th of Hood Farm	17,557.0	999.12
Ayrshire	Auchenbrain Brown Kate 4th	23,022.0	917.60

Ayrshire Advertising Pays the Breed

THE progress of last year in Ayrshire circles has been made under difficulties such as never before experienced. Shortage of labor and increased cost of production being the chief obstacles, but these have been met and overcome with a spirit of determination as instanced by an increased membership; an increase in registrations and transfers; also in entries and registrations in the R.O.P.; more inquiries and sales of Ayrshires; a better display of the breed at exhibitions, and a greater interest in the breed generally.

The increase in R.O.P. work has been most marked, there having been 609 entries in 1916, a big increase over the previous year. From January 1st to December 1st last, 296 cows and heifers have qualified with increased records of milk and fat, as well as per cent. of fat. This is more than double the number that qualified in 1915.

With the rapidity with which new records are made in each class it is quite evident that the limit of Ayrshire production is not reached. When we had Ayrshires qualifying with over 16,000 lbs. milk and 799 lbs., fat we thought the limit had been reached; but not so, as a new record goes to prove that the limit is even higher than we thought. "Lady Jane," owned by A. E. Turner & Son, Ryckman's Corners, Ont., has just finished her test with a record of 19,415 lbs. milk and 781 lbs. fat, the highest official production of a Canadian Ayrshire.

The demand for breeding stock has been unprecedented any many breeders have sold to the limit. Prices have been good, although not in general unusually high, and yet the year has been one of record prices. The owner of Auchenbrain Hattie 6th., (Imp.) R. R. Ness, Howick, Que., received for this splendid champion $1,500, and "Hobsland Piecemeal" (Imp.), was turned over by his owner, J. H. Black, of Lachute, Que., at the record price of $4,000. Both went to United States buyers, who continue to select our choicest specimens.

At the exhibitions Ayrshires never made a better showing, and more and more does this Scotch breed become the admiration of the ringsiders. The balance, trueness to type, and productive proclivities of this breed are sure to make it famous, especially in the hands of our present day breeders. The popularity of the breed is shown by the greater interest at the ringside of our great shows, and especially by the numerous inquiries for information about the breed.

Since July 1st, when an extensive advertising campaign was put on the Secretary has received over 300 inquiries about the breed from all parts of Canada. This has resulted in creating a wider field and larger demand. Particularly has there been a demand for young sires from record ancestry, which indicates that herd-headers from record dams and sires are wanted.

To further Ayrshire interest in a com-

munity there is no better method than the organization of Ayrshire Clubs. There were organized during the year, the Howick-Huntingdon, Dundas-Grenville, and Hemmingford Clubs, making eight such clubs now in Canada. Nearly all of these clubs have promoted good-fellowship and Ayrshire interest by holding field days, at which addresses and demonstrations in judging was given by experts. Two clubs —the Southern Counties and Hemmingford—put on successful auction sales of stock. The Howick-Huntingdon Club exhibited about twenty head at the National Dairy Show at Springfield, Mass., last October, and in the keenest competition won many prizes, and gave the State of Wisconsin a hard run for the prize for the best exhibit from any State or Province.

Until late years line breeding has been little followed by Ayrshire men, but by tracing out pedigrees of record animals we find some wonderful families. The most noted is "Jean Armour" and her descendants. She was the first Ayrshire to give over 20,000 lbs. of milk in one year, and at 18 years she gave 18,382 lbs. milk and 716 lbs. of fat within the year. Many of her descendants are noted producers, and all carry *the form* desired by Ayrshire men. It is interesting to go back to "Jean Armour's" immediate ancestors to consider the quality of the early members of the strain. Eight times the pedigree traces back to "Mars 1," one of the best Ayrshire bulls in Canada in the seventies. Nine times "Jean Armour" traces to the noted Ayrshire bull "Eclipse," and seventeen times to "St. Cuthbert." "Jean Armour" was bred by H. & J. McKee, Norwich, Ont.

An Ayrshire bull that has given many heavy producers to the breed is "Scottie," bred by W. W. Ballantyne, Stratford, Ont. He has 20 daughters qualified in the R. O. P. with records varying from 7,000 to 11,000 lbs. of milk testing from 3.7 to 4.1. p.c. butter fat. Like "Jean Armour" he also carries some Auchenbrain blood in his veins. This bull, like many other Ayrshire bulls I could name, would space permit, has proven to have the power of transmitting heavy producing qualities to his daughters.

What Happened to an Old Farm

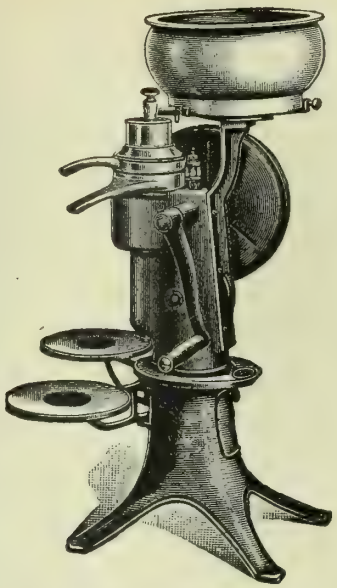
Continued from page 21.

had good milk and butter made right on the farm, eggs for which we did not have to pay five or six cents apiece and everything we needed in the way of vegetables and fruits. And all the time we were moving along toward real farming, for which this work was only a preparation. Another laddie came along, a dear little chap with cheery disposition and happy heart. The older boy was more and more able to help out on the farm and there never was a more willing chap than he. We never spent one moment regretting that we had become back-to-the-landers. This was life, and we were getting the most out of it.

(*To be continued.*)

Mrs. Parker—"Now, young man, why aren't you at the Front?"

Young Man (milking cow)—"'Cos there ain't any milk that end, missus!"



MORE CREAM —Bigger Profits

By using the "King" Cream Separator you obtain all the Cream with less labor. Let us place a Separator in your dairy to convince you the above statement is true. Strongly built for lasting service. All sizes. Can be operated by hand or power.

Write us for our agent's address in your locality. Sold on easy terms

King Separator Works of Canada

KING CREAM SEPARATOR **BRIDGEBURG - ONTARIO**

PEERLESS PERFECTION

Absolute Security

WHEN you go away for a day or turn in for the night, *you are certain* your stock is locked in—they can't get over, under or through the spaces—a perfect fence for hilly or uneven ground, through streams; protects poultry, ducks, geese, sheep and hogs. Can't sag or break down and will turn an unruly horse.

Peerless Perfection Fencing

is made of best heavy Open Hearth steel fence wire, the impurities burned out and all the strength and toughness left in. Makes the fence elastic and springy. It will not snap or break under sudden shocks or quick atmospheric changes. Our method of galvanizing prevents rust and the coating will not flake, peel or chip off. Every intersection is securely clamped with the famous Peerless Lock.

Send for catalog. It also describes our farm gates, poultry fencing and ornamental fencing.

Dealers nearly everywhere. Agents wanted in unassigned territory.

The Banwell-Hoxie Wire Fence Co., Ltd.

WINNIPEG, MAN. HAMILTON, ONT.

PEERLESS THE ALL AROUND FENCE

MINARD'S
"KING OF PAIN"
LINIMENT

The old reliable remedy for rheumatism, neuralgia, sore throat and sprains.

Best Liniment Made

MR. A. E. LAUNDRY, EDMONTON, writes:—"I fell from a building and received what the doctor called a very bad sprained ankle, and told me I must not walk on it for three weeks. I got MINARD'S LINIMENT and in six days I was out to work again. I think it the best Liniment made."

Minard's Liniment always gives satisfaction. For any ache or pain. It gives instant relief.

Minard's Liniment Co., Limited
Yarmouth, - - N.S.

THICK, SWOLLEN GLANDS that make a horse Wheeze, Roar, have Thick Wind or Choke-down, can be reduced with

ABSORBINE

also any Bunch or Swelling. No blister, no hair gone, and horse kept at work. Concentrated—only a few drops required at an application. $2 per bottle delivered.
Book 3 K free.
ABSORBINE, JR., antiseptic liniment for mankind, reduces Cysts, Wens, Painful, Knotted Varicose Veins, Ulcers. $1 and $2 a bottle at dealers or delivered. Book "Evidence" free.
W. F. YOUNG, P.D.F. 482 Lymans Bldg., Montreal, Can.
Absorbine and Absorbine, Jr., are made in Canada.

March Work on the Farm

By GRASMERE

"The Stormy March has come at last,
With Wind, and Cloud, and Changing skies."
—Bryant.

"One need never expect to exhaust the natural history of even his own farm. Every year sees a new and enlarged edition of the book of nature, and we never hope to turn the final leaf."—John Burroughs.

Just a Reminder.

Re-clean the seed grain and feed the small kernels.

Beware of sowing frosted or rusted wheat without testing its germination.

If wheat only germinates 50 per cent. and that that does grow makes weakly plants it will pay to buy No. 1 seed at five times the price.

Treat all seed grain with formalin to kill smut spores.

Labor scarcity can be somewhat offset by forehandedness.

Are all spring-used implements ready for the forward call?

Sow clover seeds on the fall wheat just as the snow is going off.

Manure the orchard on top of the snow. It holds the blossom back and enriches the tree.

The last call for getting in your fertilizer line, spray materials, seeds, etc.

Does your auto or gas engine need new dry cells in the battery.

Are all poor cows, commonly called boarders, sent to the butcher where the high priced sirloins be!

Spray the stables for vermin as spring shows them up. Give the stock a chance.

Enthuse your local G. G. A. or U. F. club by being present and boosting it for the year's good work.

Ear-marking the young lambs by a nicking process helps identification later on.

Keep all records in good shape noting all sales and disposition of purebred stock.

Coal ashes and cinders make good filling under the concrete work.

Can you bridge graft? A rabbit or two near your trees may make your knowledge valuable in the spring.

Have you all the information on your crop rotations at your hand? A filing envelope on potatoes, celery, onions, cabbage, alfalfa, sweet clover, muck land, pastures, etc., may give you information in the noon hour, just when you want it. If not start a filing system of your own now.

Attend all meetings of church, agriculture and social betterment that you can. Speak when you have anything to contribute. Don't let any speaker make deprecatory remarks about farmers' loyalty and get away with it. Our good natures sometimes tolerate a pernicious speaker.

Among the Fruit Trees.

Cut down all rubbish, wild fruit trees in fence rows. Keep the orchard fences clean.

Cut scions for grafting purposes the latter part of the month and cover with moist sand until needed.

Scions come best from wood of last years' growth and from the ends of bearing branches.

The best limbs to graft are from one to three inches in diameter.

Good scions should be about five inches long, a quarter of an inch thick and contain 3 buds at least.

Grafting wax can be made or purchased. Grease the hands thoroughly when using it.

Spraying for scale should be done this month or early in April.

March is a good time to burn the limbs and rubbish, leaving the ashes on the soil.

Prepare your orchard planting plan before the trees arrive. A planting board, small stakes, one for each tree and a chart ought to be provided.

In planting an orchard, a chart with variety, name of nursery and age of tree should be kept for future reference. In my young orchard I can thus go back to any tree and tell the history on the spot.

Bridge grafting may be necessary if the rabbits and mice have had full opportunity. They do a lot of damage in March.

All spray supplies should be on hand this month to save the time and labor necessary when they are neeeded.

Spreading manure on the snow in the orchard has a tendency to hold back the blossoming and so escape frost.

In the Poultry Pens.

Protect the poultry from drafts and all dampness.

Geese will be laying this month. Keep the eggs in a cool dry place.

The geese should be accustomed to their own pens before they begin laying.

Be scrupulously careful to sell eggs from carefully mated pens to your breeding customers.

Disinfect your incubators thoroughly before each hatch.

Frank Ellis, a former farm paper editor, now farming in Ontario, says there is more money in poultry than in dairying.

Lewis N. Clark in the February FARMER'S did not overstep the possibilities for money in the poultry business this year.

See in this issue special poultry department for further interest.

Our Dairy Barns.

Plan a good corn field and a new silo if necessary.

John I. Flatt of Millgrove, says he put in a milking machine because it paid him to do so.

A milking machine easy to keep clean and then taken care of is a boon to the stable.

Stable fittings of steel and concrete are best suited for a sanitary dairy.

Take care that the freshening cow does not slip in icy yards, is not hooked by rough cattle or does not lie with her udder on cold cement.

Many a farmer used his bull and idle horses to run the tread-mill to operate his milking machine.

All manure should either be hauled direct to the fields and spread or else sent to a special shed.

Save the good heifers. The demand is coming.

Many a farmer who has been merely carrying his cows, will rejoice in the approach of grass to get into intensive production again.

But money has been made by pushing to production with the high priced feeds.

Among the Cattle.

Big prices are predicted for beef cattle this spring. Feed has been high in price but its price on hoof is higher.

Spray with Zenoleum often to avoid lice troubles. Nothing looks worse than half bare cattle.

Keep the feeders vigorous in appetite. Individual study is necessary to do this.

Shrewdness in selling your cattle, will add to your real progress.

Beef cattle for a special Easter market should put on from 2 to 2.4 lbs. per day.

If you need hay with which to finish the spring feeding, you had better buy it now.

Calves intended for baby beef should be kept growing and never allowed to lose their calf fat.

The feeder should count on about 4 per cent. for shrinkage on the finished animal.

In the Horse Barn.

Prepare for a vigorous spring; work by daily exercise during the whole month.

Corn has a better feeding value than oats and is cheaper so one of the U. S.

Continued on page 44.

RENNIE'S FARM GARDEN

Pure--New Seeds

Improved Beefsteak Tomato (enormous size). Pkg. 10c, ½ oz. 35c, oz. 60c.
Copenhagen Market Cabbage (high class early). Pkg. 10c, ½ oz. 40c, oz. 75c.
Improved Breakfast Radish (crisp). Pkg. 5c, oz. 10c, 4 ozs. 30c.
Wardwell's Kidney Wax Beans (market sort). 4 oz. 15c, lb. 55c, 5 lbs. $2.40.
Best Snowball Cauliflower. Pkgs. 15c, 25c, ¼ oz. 85c, ½ oz. $1.50.
XXX Golden Self-Blanching Celery. Pkg. 25c, ¼ oz. 75c, ½ oz. $1.40.
Ringleader Sweet Table Corn (ready in 60 days). Pkg. 10c, lb. 35c, 5 lbs. $1.50.
Cool and Crisp Cucumber (bears all season). Pkg. 5c. oz. 15c, 4 ozs. 40c.
New York Lettuce (immense solid heads). Pkg. 10c, oz. 25c, 4 ozs. 70c.
Market-Maker Golden Globe Onion (big cropper). Pkg. 5c, oz. 25c, lb. $2.10.
Yellow Onion Setts (select Canadian). Lb. 35c, 5 lbs. $1.70.
XXX Earliest Table Marrow Peas. 4 ozs. 15c, lb. 40c, 5 lbs. $1.90.
Jumbo Sugar Beet (for stock feed). 4 ozs. 15c, ½ lb. 25c, lb. 45c, 5 lbs. $2.20.
Perfection Mammoth Red Mangel (very large). ½ lb. 25c, lb. 45c, 5 lbs. $2.20.
Canadian Gem Swede Turnip (good keeper). 4 ozs. 20c, ½ lb. 37c, lb. 70c, 5 lbs. $3.40.
Improved Greystone Turnip. 4 ozs. 15c, ½ lb. 27c, lb. 50c.
Thousand-Headed Kale (for green food). 4 ozs. 25c, ½ lb. 35c, lb. 60c, 5 lbs. $2.10.
High Grade Gold Nugget Yellow Flint Field Seed Corn. Bush. $3.35, 5 bush. $16.25.
High Grade Wisconsin No. 7 White Dent Seed Corn. Bush. $2.85, 5 bush. $13.75.
Select Irish White Seed Oats. Bus. $1.25, 10 bus. $12.00.
Seed Barley, O.A.C. "21" (six rowed). Bus. $1.80, 5 bus. $8.75

Seed Corn, Oats, Barley Prices do NOT include Freight Charges. Bags 30c each extra.

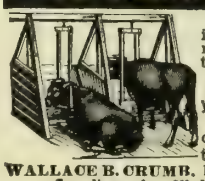
Rennie's Seed Catalogue Free to All. Delivered Free, Except Grain

Order Through Your Local Dealer or Direct From

Rennie's Seeds KING & MARKET STS., TORONTO

ALSO AT MONTREAL WINNIPEG VANCOUVER

CRUMB'S IMPROVED WARRINER STANCHION



Henry H. Albertson, Burlington, N. J., writes: "My new Stanchions add greatly to the comfort of my cows."

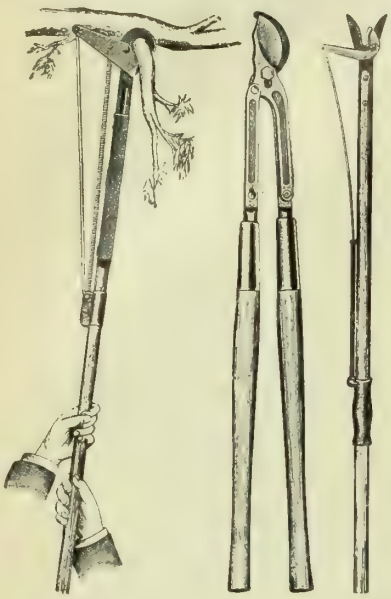
WHY TORTURE yours with rigid stanchions? Send for specifications of inexpensive yet sanitary cow stable to

WALLACE B. CRUMB, F3, Forestville, Conn., U.S.A.
Canadian orders filled from Canadian factory.
All correspondence should be addressed to the home office. State in inquiry if you prefer booklet in French or English.

BUILD CONCRETE SILOS with the LONDON ADJUSTABLE SILO CURBS. Over 12,000 concrete silos have been built in Ontario alone. Send for catalog No. 10. LONDON CONCRETE MACHINERY CO., Dept. D, London, Ontario.
World's Largest Manufacturers of Concrete Machinery

ALPINE AND PERENNIAL SEEDS.
Unique collection adapted for Canadian climate.
HARDY PLANT FARM, ENFIELD, ENGLAND.

PRUNE
Quickly With Ease



Taylor-Forbes pruning tools are designed on new principles. They so greatly reduce the work that five or six trees can be trimmed in the time formerly required for one. They quickly pay for themselves by the economy in time they afford.

The Kansas, a general utility Knife, suitable for pruning trees, shrubbery and hedges. It has a wide range of action. It will cut the smallest twig or a green limb 1¾ inch through.

Orchard King can be worked where limbs are close together, removing one without injury to the others. The blade is of finest temper and is removable for sharpening. The handles are made of hard maple, carefully selected, well seasoned, and of ample strength.

Happy Thought—This knife has a pump gun action which is very effective for setting back budding, shaping and trimming. It is a general favorite for light or medium work. It permits the operator to stand on the ground. It will cut limbs up to ¾ of an inch, works easily, has a powerful leverage, and long drawing cut, which are features of all our pruning knives.

All our goods are guaranteed against defective material or poor workmanship.

Ask your dealer. Write for our Booklet "F." Learn how to care for your trees.

Taylor-Forbes Co., Limited

Head Office and Works:

Guelph - Ontario

The Fruit Grower

United States Apple Census Figures.

	bbls.		bbls.
1895	60,500,000	1905	24,300,000
1896	69,000,000	1906	38,280,000
1900	57,000,000	1907	29,540,000
1901	26,970,000	1910	23,825,000
1902	42,626,000	1915	76,670,000
1904	45,360,000	1916	67,415,000

The population of the U.S. in 1900 was about 76,000,000, with a production of 57,000,000 bbls., or a per capita production of ¾ bbl. of apples. Against this we have a 100,000,000 people in 1916 with an apple production of 68,000,000 bbls., or a per capita figure of .68 of a barrel of apples.

According to their census figures there were 50 million less bearing trees in 1910 than in 1900. The new trees coming on were estimated at 65,000,000, which at the same rate since 1910 will have brought only about 15 million new trees into production over the former figures.

Add to this the increasing apple appetites being created, not only in America, but in South Africa and Asia, one can foresee little danger in the over-production of apples during the big incoming years.

How Spraying Pays.

No. of Experiments.	Variety of apple.	No. of sprays given.	Per cent. clean apples.
14	Spy	3 to 5	81.1
4	Snow	3 to 5	97.2
5	Greening	3 to 5	95.8
1	McIntosh	6	90.
1	Wagner	5	100.
1	Ribston	5	96.
1	Hol'nd Pippin	5	90.
1	Cranberry	4	89.
1	Ben Davis	4	92.

In these experiments the 4th spray was put on two weeks after the blossoms. The fifth spray was used one month later.

The experiments were conducted at Collingwood, Paris, Whitby, Thedford and Wellington.

Apple Orchard Nets $346 Per Acre.

The Dundas Co. Demonstration Orchard, handled by the district representative, consists of 45 McIntosh Red trees with half a dozen of other varieties.

In telling of the work Mr. E. F. Brandt says:—

"We found it necessary to spray quite frequently. The season was very favorable for the development of scab and the McIntosh Red are very susceptible to this fungus.

"We applied the first spray before any growth had started, using lime sulphur at the rate of 1 to 9 of water. The second spray was applied just as the blossom buds were turning pink at the tip, using lime sulphur at the strength of 1 to 35 and adding 2½ lbs. arsenate of lead. The third spray was applied just after the blossoms had fallen, using the same strength of solution and continuing the use of the poison. The fourth spray was applied 10 days later, using lime sulphur at the strength of 1 to 40 and using 2 lbs. of arsenate of lead to the 40 gals. of the mixture. The fifth spray was applied 10 days after the fourth, using the same strength of lime sulphur and omitting the arsenate of lead. The sixth spray was applied about two or three weeks later or on Aug. 14th. This was put on to prevent the development of the late pin lead scab which is quite common in this district in seasons such as last year."

Expenditures.

Cultivation—	
Sod mulch system.	
Cutting grass ½ day, man and team at $4.00	$ 2.00
Pruning—	
4 days, 1 man at $2 per day	8.00
½ day gathering brush at $2	1.00
Spraying—	
Power outfit spraying 6 times, 6 hrs. each, time at $1 per hour	36.00
Picking—	
126 bbls. apples at 25c per bbl.	30.00
Packing and Grading—	
120 bbls. at 35c per bbl.	42.00
Cost of Spray Material, 6 applications—	
85¾ gals. lime sulphur at 17c per gal.	14.58
65 lbs. lead at $9.15 per cwt.	5.95
Packages—	
120 bbls. at 45c per bbl.	54.00
Hauling Fruit to Station—	
5 trips 3 miles at $1.50 per trip	7.50
Total cost of orchard	$201.03

Receipts

84 bbls.	No. 1	McIntosh Red, at $6		$504.00
14 "	" 2	" " $5		70.00
16 "	" 3	" " $3		48.00
1 "	" 1	Wealthy at $3		3.00
1 "	" 2	" $2		2.00
1 "	" 1	Mann at $3		3.00
2 "	" 1	Duchess at $2		4.00
1 "	" 1	Pewaukee at $3		3.00
				$637.00

Receipts	$637.00
Expenditures	201.03
Net profit from 1¼ acres	$436.97
Net profit per acre	$349.57

"I believe that this will establish a record in the province for an acre of orchard land," says Mr. Bradt. "It will be noted by the above report that six applications of spray were necessary to keep the fruit clean. This added to the cost of production over a normal year. In spite of the very unfavorable season it will be noted that the percentage of No. 1 fruit is high, being 74.1%. The percentage of fruit free from scab would be represented by the No. 1 and two grades, although all apples classed as No. 3 were not affected by scab. Allowing that they were, the percentage of fruit free from scab would

be 86.6%. This indicates that it is possible with thorough spraying to largely hold scab under control even in one of the very worst seasons possible. The season was so bad that in unsprayed orchards the fruit was unmarketable, and in orchards sprayed two and three times the whole pack was put up No. 3. It was only by persisting in the spraying every week or ten days during the rainy period that the scab was held under control.

"The first spray was applied on May 6th just as the buds were bursting. The last spray was applied Aug. 14th when the fruit was quite large and colored.

"After the last spray we had very little rain up until picking time and the marking of the spray was somewhat noticeable, although not sufficient to injure the appearance or sale to any great extent. Our experience this year would lead us to believe that with McIntosh and Fameuse it is not advisable to apply the last spray much after Aug. 1st unless the weather was very wet after that date. It would then be advisable to put one on later to prevent late pin-head scab which so frequently develops. Considering the fact, however, that McIntosh and Snow are usually ready to pick about Sept. 20th it would be advisable ordinarily to get on the last spray by Aug. 1st. In all probability it would then not show on the fruit at picking time."

B.C. Fruitgrowers.

The fruit growers of B.C. are making a determined effort to get into the prairie markets with their apples. Representatives from there attended the meetings of the United Farmers of Alberta in Edmonton and of the Grain Growers at Brandon. The meeting of the B.C. fruitmen held in the middle of February were addressed by Roderick McKenzie secretary of the Canadian Council of Agriculture and Pres. H. W. Wood, of Alberta. Last year $5,000 had been spent by B.C. in advertising their products on the prairies.

Blight on Strawberries.

Mr. Clark, of the Dominion Canners, who farms in Prince Edward County, experienced trouble with blight on his strawberry plants last year. Mr. McCubbin, of the College staff, attributes the trouble to a disease along with which a fungus works. The department has not found time to experiment enough yet with the matter to advise. L. Caseor says that sometimes the whole planting will die after the first picking.

Re-planting Strawberries.

In setting out fresh beds of strawberries the opinion has been general that yearly plantings had to be done to secure best results.

C. R. Terry, in the Clarkson district, finds that the patch can be kept for two and even three years and make often as good returns. He had his best results last year on a 3-year old patch.

But the secret of this seems to be in plowing the old patch between the rows immediately after the crop is off, leaving the row only 8 inches wide, and following this with a hoe, leaving the plants well thinned out. Cultivation is then kept up similar to a new planting.

In making a new planting he takes the outside plants from the rows and has not used the whole row as many others have done successfully.

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ARROW COLLARS

THE BEST THAT YOU CAN GET IRRESPECTIVE OF THE PRICE YOU PAY 15c each 6 for 90c

CLUETT, PEABODY & CO., Inc., Makers, Montreal

A LARGER HOLD FOR HOOKS ON HORSE COLLAR PADS

AT the left we show our new patented staple and felt reinforcing device which prevents the hooks from coming off easily.

This attachment overcomes a large per cent of trouble formerly experienced by pad users. It is the greatest single improvement on horse collar pads since pads were invented, and adds greatly to their long-lasting quality. This form of attachment is

Found Only On Pads Made By Us

Look for it on all pads you buy and refuse a substitute.

Ask your dealer for free Tapatco booklet showing Tapatco pads in various colors and containing many valuable emergency horse remedies. If your dealer hasn't this booklet, request him to write us direct for it.

We also make a complete line of Riding Saddle Pads.
Sold by dealers everywhere.

The American Pad & Textile Co.

Main Office and Plant, Greenfield, Ohio, U.S.A.

Chatham, Ontario

A PAYING INVESTMENT FOR WINTER MONTHS

It costs you nothing to consult us as to the advantages of having a Greenhouse on the Farm. Write Dept. M., stating your requirements and we will gladly furnish you with costs, etc. All information **FREE.**

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TIMOTHY
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CHICAGO, U.S.A. Est. 1855

Order Canadian Grown Nursery Stock

direct from the Nurseries and save agent's and middleman's profits. **Write at once for our Catalogue and Prices for Ornamental and Fruit Trees, Small Fruits, Evergreens, Roses, Shrubs, etc.**

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J. H. McCombs Union Nurseries. L B 828 FONTHILL, ONTARIO

Horticulture and Gardening

Reliability of Seeds for Planting.

The reliability of seeds for planting depends upon a number of factors. The seeds must have been produced from carefully selected seed plants, grown far enough away from other varieties or undesirable seed plants of the same variety to insure against cross pollination. The seed plants should have been given careful attention and every effort made to promote their full development; a stunted plant is likely to produce inferior seed. Seed growers and seedsmen are equipped with special machinery for cleaning and handling the various kinds of seeds, and the most progressive seedsmen, maintain extensive trial grounds for the testing of new varieties, and for determining the purity of different stocks of the standard varieties, which enables them, as a rule, to supply more reliable seeds than those home grown.

Old seed should always be tested a short time before the planting season. One of the best ways of making a test is to count out one hundred seeds and plant them in the soil of a greenhouse bench or hotbed, or to place the seeds in a plate of moist sand covered by another plate or between two sheets of blotting paper keeping the seeds moist until the test is over. The percentage of germination is determined by the number of seedlings which appear. The United States Department of Agriculture has adopted the following standard of percentage germination for common vegetable seeds: Asparagus 80, Beans 90, Beet 150 (since the beet "seed" is really a fruit and usually contains more than one seed), Cabbage 90, Carrot 80, Cauliflower 80, Celery 60, Sweet Corn 85, Cucumber 85, Lettuce 85, Melon 85, Onion 80, Parsley 70, Parsnip 70, Pea 93, Pepper 80, Radish 90, Salsify 75, Spinach 80, Squash 85, Tomato 85, Turnip 90.

Garden Fertilizers.

Forty tons of stable manure per acre per year is a very moderate application for the production of certain kinds of vegetables; and commercial fertilizers are sometimes used at the rate of 1,000 to 1,500 pounds per acre. Vegetable crops should yield a product of very high value per acre and additional plant food is likely to mean a corresponding profit. Phosphorus may be bought in rock phosphate or bone meal, in either the raw form or treated with acid. Rock phosphate or bone that has been treated with acid contains its phosphorus in a more quickly available form than the raw material but its continued use is likely to have an undesirable effect on the soil. Steamed bone meal is an especially desirable form in which to apply phosphorus for vegetable crops. Potassium comes chiefly in muriate of potash, sulphate of potash, and unleached hardwood ashes. Where ashes can be procured they act quickly and do not injure the plant or the soil. Commercial fertilizers may be used to supplement, but not to supplant animal and green manures, otherwise the soil becomes deficient in organic matter and loses its friable texture and its ability to resist drought.

Crops grown for leaf production, as lettuce and cabbage, require more nitrogen than do the root and tuber crops, potatoes, turnips, etc., which require more potash and phosphoric acid. Where plants are grown as in a vegetable garden, it is often impossible to consider their individual fertilizer requirements. The following mixture is recommended as a general dressing for a vegetable-garden 50 x 50 feet; Nitrate of soda, 16 lb.; muriate or sulphate of potash, 25 lbs.; and phosphoric acid in the form of bone-meal finely ground, 50 lb., or acid-phosphate, 15 lb. If possible, these three fertilizers should be applied as suggested above.

Lime is beneficial to most soil, and especially if it is inclined to be sour. From 50 to 100 lb. is sufficient for a plot 50 x 50 feet. It should be applied in the fall or very early spring. As the results last over a number of years, an application every four or five years is sufficient.

Cold Frames and Hotbeds.

Temporary cold frames may be made by setting up two parallel lines of plank, six feet apart, held in place by stakes driven into the ground. One line should be of wider plank than the other to provide for slope. Boards are nailed across the ends and the top is covered with sash or cotton cloth. If sash is used, crossbars may be omitted from a temporary frame of this sort. If a cloth cover is used it must be supported at intervals of about four feet. For making a cloth cover two widths of heavy unbleached muslin are sewed together. One edge of the cover is nailed to the top of the plank forming the upper side of the frame, while the other edge is fastened to a roller made by nailing together two 1 foot x 2 foot strips of wood in such a way that the strips break joints and form a continuous roller as long as the frame, except in the case of frames over sixty feet long, when the cover may be made in sections for convenience in handling. The cover must be of such a width that when put over the frame the cloth will come a little beyond the top of the front plank. The weight of the roller will then hold the cover in place.

A manure hotbed may be made very cheaply by placing a sash-covered frame on top of a flat pile of fermenting manure, but such a bed is badly exposed to winds, and is less satisfactory in cold weather than a bed made by placing the

frame above a pit containing the manure. The pit may be merely an excavation in the ground, or may be walled up with plank, or even brick if a permanent bed is desired. The bed must be in a well-drained location, if the manure is placed in a pit; otherwise water would likely seep into the pit and interfere with the proper fermentation of the manure.

The preparation of manure for a hot-bed should begin at least three weeks before the hotbed is to be used. Fresh horse manure from grain-fed animals should be placed in a compact pile. The manure should contain a fair amount of litter, but should not be too strawy. If it is rather dry it should be moistened with water as it is being piled. As soon as fermentation has become well started, the manure should be thoroughly forked over and repiled. As soon as the whole pile is steaming, the manure may be placed in the pit, or in a flat pile if the bed is to be constructed entirely above ground. A good plan is to put the manure on in layers about six inches deep, and tramp each layer thoroughly before putting on the next. When complete, the manure should be about two feet deep.

As soon as the manure has been placed in the bed, the frame and sash should be put on to protect it from rain or snow and to help retain the heat. The soil may be placed in the bed at this time or a few days later, but the seeds must not be sown, nor the plants set until after the violent heat has subsided. Some people favor putting in the soil when the bed is first made, that the violent heating may kill any weed seeds.

Early Care of the Lawn.

From early spring onward, the lawn will need careful attention. Spots will appear where the heavy rains have made uneven surfaces, little hollows and lumps will mar the smooth green. To mend the hollows, the best plan is to lift the sod above, level up the hollow with some loamy sand and a spadeful of manure, pound all down well, then replace the sod. Keep these spots well watered during the summer and the mended spaces will not look patchy. By using the old sod, the lawn will be of uniform texture and color, a thing not possible when fresh sods have to be brought from the fields.

The top dressing on the lawn should be removed early in the spring or considerable harm will be done. A few good rains will have carried down plenty of nitrogenous material from this top mulching, and enough is enough. If the sun should warm up unduly, the amount of heat generated beneath this dressing is amazing and means ruin to the turf.

Whitewash for Exterior Use.

A good durable whitewash for garden fences, rockeries, etc., is made as follows: Slake one bushel of quicklime with twelve gallons of hot water. Dissolve two pounds table salt and one pound sulphate of zinc in two gallons boiling water. Pour this into the slaked lime, add two gallons skimmed milk and mix thoroughly. A pound of cheap bar soap dissolved in a gallon of boiling water and added to about five gallons of thick whitewash will give it a gloss like that of oil paint.

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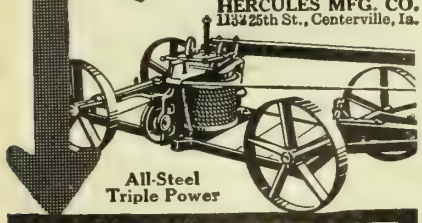

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Practical Field Methods

Colorado Beans.

During the last three years the acreage of beans in Colorado has increased from less than 10,000 acres to 40,000 acres.

Framing Sandy Loam Soil.

Harry George of Ridgetown, Ontario is farming 100 acres of the "easiest" types of soil one could possibly find—and that is sandy loam. This type of soil works up easily and fine, water does not stand on the fields and if handled with care responds quickly to good treatment or will respond equally quickly to bad treatment.

This soil must be kept full of organic matter and well supplied with plenty of available plant food. A sandy loam soil usually needs ammonia, phosphoric acid and potash and this is the plan Mr. George is following to supply his soil with plant food. Beans, wheat, oats, corn, barley, clover and tobacco are grown. Wheat, beans and tobacco are sold and the rest fed to cattle and hogs. Mr. George buys up cattle to feed through the winter. This method supplies a large quantity of manure to be plowed under in the early spring.

Wheat always receives a rather heavy application of fertilizer. Mr. George says: "I will never plant any more wheat without fertilizing it. Burley tobacco is grown and it yields from 1500 to 1600 pounds to the acre. The wheat this year yielded 25 bushels per acre." — C. R. Dewey.

Sowing Wheat, 1915.

Heavy seed promotes stooling and the production of strong plants, and benefits yield and quality of grain, as well as yield of straw. In most cases where heavy seed has been compared with small or light seed, the results have been in favor of heavy seed. Owing to an insufficient food supply or an imperfectly developed germ, plants from injured and immature seed often have not the power to live, although the seed sprouts quite successfully. If wheat has become heated or moldy in storage it may not grow at all or else have only a low percentage of germination. It is advisable, therefore, to make a germination test to determine the vitality of the seed.

The depth of sowing depends mainly upon the kind of soil and its physical condition. The object should always be the provision of the best moisture conditions for the seed. In moist soils or soils of a hard texture shallow seeding is practised, while in loose or dry soils deeper seeding is necessary. The usual depth of sowing wheat is from 1 to 2 inches. When the seed kernel lies deep the portion of the young stem connecting it with the crown is necessarily longer than when it lies nearer the surface of the ground, as in the case of shallow seeding.

The quantity of seed used per acre depends upon the kind of soil and its physical condition, the climate and the season, the time and method of sowing, and the size, quality, and variety of the seed. As a general rule, wheat is sown thicker on poor soils, stiff and cold, clay lands, and rough and cloddy seed beds on fertile soils, friable loams, and fields well worked and smoothed before seeding. Late sowing and broadcasting also require more seed than early sowing and drilling. A large-grained variety requires a greater quantity of seed than a fine-grained sort, and a variety with limited stooling capacity more than a heavy stooling variety. Generally the quantity of seed per acre varies from 6 to 8 pecks.

There are two common methods of sowing wheat, viz., drilling and broadcasting. Different kinds of machines are used for both operations, but broadcasting is also done by hand. Drilling is done with common drills, press drills, shoe-and-chain drills, disk drills, etc. Each method has its advantages under certain conditions. The results at most of the experiment stations are in favor of drilling.

Rolling and sometimes harrowing is resorted to during the early stages of the crop. Late rolling and late harrowing are often injurious. In dry climates and seasons cultivation between the drills is sometimes carried on.

Clover in New Brunswick.

There are many varieties of clover that grow in Canada and nearly all of these are suitable for New Brunswick. These are, red clover, white clover, alsike clover, sweet clover, alfalfa. and yellow hop clover. The high protein content of all clovers makes them very valuable in cattle and sheep rations while the habit of fixing in the soil nitrogen taken from the air, as possessed by the roots of clovers, decides their place in all soil building operations. The seed growing proposition is also one that should interest all farmers in N.B.

The Demand for Vegetables.

For many a day there will be an ever-growing demand for vegetables, particularly in older Canada. Should the war continue or should it cease within a few months, the demand for everything that the gardener can produce is bound to be active. For war purposes desiccated vegetables, prepared in various ways, have a great deal to do with the soldiers' health. Only within recent years has this been discovered. Equally advantageous have desiccated vegetables proven for miners and shanty men and lumbermen and other workers whose occupations take them far away from the sources whence fresh vegetables may be obtained. The increase of department houses, too, gives, the dried vegetables a wide market. Indeed, the

Heaves Cured

The real cure for Heaves has been found in Capital Heaves Remedy. Twenty-two years of remarkable success proves its merit. No matter how old the case, or what else has been tried, use "Capital" Remedy. Cure guaranteed or money refunded.

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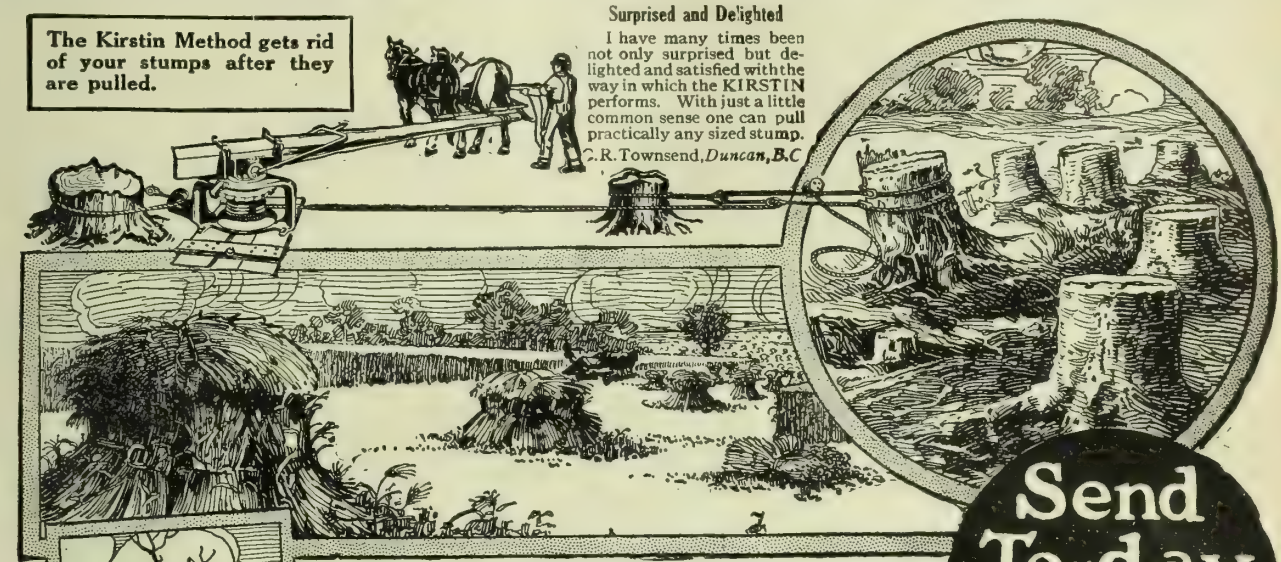
The Kirstin Method gets rid of your stumps after they are pulled.

Surprised and Delighted

I have many times been not only surprised but delighted and satisfied with the way in which the KIRSTIN performs. With just a little common sense one can pull practically any sized stump.
C. R. Townsend, *Duncan, B.C*



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Yank Out Those Stumps!

A Guaranteed Saving of from 10% to 50% in Clearing Land Ready for the Plow.

80 stumps in 100 minutes. Record made by Kirstin Horse Power Puller under official watch test at the Land Clearing Demonstration of the University of Wisconsin.

The rich crop pictured above, is growing on what was a tax-eating stump field. The owner got it ready for the plow the Quickest, Cheapest and Best Way — with the Kirstin Method. Thousands of farmers have increased the productive value of their land a hundred-fold by clearing the Kirstin way. You do the same. Stop paying taxes on worthless stump fields; make them earn money for you — get a

Guaranteed for 15 Years Money Back Bond

Kirstin Stump Puller

One Man — Horse Power

No deeply imbedded root is too big for the Kirstin Horse Power Puller. Its mighty strength is irresistible because of its triple power and other exclusive Kirstin features. It will clear more than two acres at one setting without strain to man, horse or machine. 21 years the leader.

One man without horses can pull the biggest stumps, too, with the Kirstin One Man Stump Puller. A little push on the handle gives tons of pull on the stump. This enormous power is developed by use of double leverage. It gives an ordinary 17-year-old farm boy a giant's power.

There is a machine for every need, from the smallest land clearing job to the biggest. Every customer is given a **Guarantee Bond** that The Kirstin Method will clear your land and make it ready for the plow at a cost from **10% to 50% cheaper than any other.** Every Kirstin Puller is **guaranteed** against breakage **for 15 years.** Every puller sent on **10 days' trial, money back** if guarantee does not deliver the goods.

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"The Gold in Your Stump Land." Read the letters from farmers who have bought Kirstins. Learn how, after clearing your land, you can make money by renting your Kirstin to the neighbors, learn about Kirstin service, forever free to all Kirstin Owners. Don't buy until you read this book.

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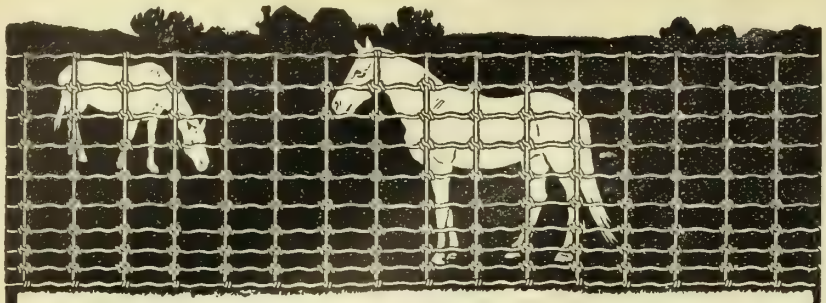
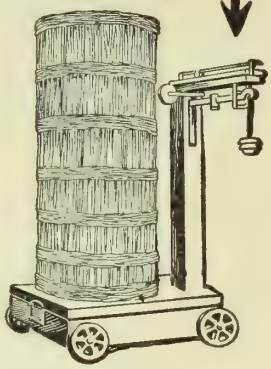


Fencing? Yes, but what kind?

The farmer who thoroughly examines the relative merits of the various brands of wire fences offered to him will not have any difficulty about deciding upon the one he ought to have. Let him decide by that most unerring of all tests—weight. Why judge by weight? Because weight means strength, and strength means durability and long life. Of the different makes of wire fences, there must naturally be one that will weigh heavier than the rest.

The heavy-weight among fences is the "Ideal"

The reason is that all the wires are full gauge No. 9 hard steel wire; every wire is full of life and strength, and heavily galvanized to properly protect and preserve that strength. You therefore get longer service from "Ideal"—most for your money in strength, durability and all-round satisfaction.



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Do you realize that one of the most Profitable, Healthful, Fascinating, and Carefree Professions is that of the Western Farmer!

The Canadian Northern Railway Offers You a Golden Opportunity!

The most fertile Districts in the whole of Western Canada are served by the Lines of the Canadian Northern.

Don't Envy the Farmer—Be One!

For further Particulars of Homesteads open for free entry, also Routes, Fares, etc., consult nearest C.N.R. Agent, or write today for our "Homeseekers' and Settlers' Guide," see what others have done and what you can do in this land of Sunshine, to **General Passenger Dept., 68 King St. E., Toronto, Ont., 226 St. James St., Montreal, Que., or Union Station, Winnipeg, Man.**

CANADIAN NORTHERN

day is not far distant when the housekeepers will make as brisk a demand for desiccated vegetables as they now make for any other household article. The wide-awake farmer will have a veritable gold mine who has his land ready to supply this demand.

Said a live merchant the other day at our agricultural meeting: "I have orders this minute for twenty cars of turnips for drying purposes." Is not this statement significant? Is it not specially worth noting when this same merchant is offering for turnips three times the price at which they are ordinarily sold for feeding purposes? Will our farmers near good shipping centres be able to correctly read this sign of the times? What is now true of turnips will be true of carrots and parsnips and potatoes, and of every other vegetable acceptable to the human palate. Indeed, it looks as if the best days for vegetable growers are the days that are coming.

WHAT CAN BE DONE ABOUT IT.

In the first place, local fair boards should encourage the production of vegetables by offering liberal prizes for both field and small exhibits of the vegetables best suited for market purposes. The merchant and other dealers most interested in this line of business may be confidently depended upon to back up the fair boards in this enterprise.

Farmers clubs and other agricultural associations generally will do well to give vegetable growing a prominent place on their programmes in order that the farmers generally may be aware of the best agricultural practice in this increasingly important branch of their industry. This is no field for the theorist or for the experimentalist. The usual number of fools will rush into this business, but the real farmers who will go cautiously forward, feeling their way studying the market as well as the best methods of production, will find themselves liberally rewarded.—Alonzo Brown.

Test Your Own Seed.

Any one can test seed for himself by putting one hundred seeds taken "just as they come" from the grain he wishes to test, in soil in a flower pot, box or other convenient receptacle, and keeping it moistened, but not wet, in some place where it will be not too warm in the day time, and where it will be cooler, but will not freeze, at night; the alternation of temperature favors germination. By noticing the number of plants produced, whether they come up quickly and are strong or weak, one can determine the suitability of the grain for seeding purposes more accurately than from the results of a test which he does not see. If seed that is known to be of strong vitality can be planted under exactly the same conditions as the seed whose vitality is being determined, the test will be more valuable.

Cleaning grain over a good fanning mill to remove from one-third to one-half of the bulk including all the light, shrunken and immature seeds, will greatly improve its quality as seed.

FILLS THE BILL.

"Your article on winter fairs being real places for farmers getting together in market matters hits the nail on the head."—R.A.L., Ontario.

Barns that are Landmarks

EVERYONE knows the place with the Preston Steel Truss Barn—the fine, neat, sturdy, prosperous-looking building. Everyone admires it. No one can miss it. It stands out in all the surrounding country.

Built for a lifetime, these staunch, sturdy barns. They defy the mightiest wind. Heavy rainstorms cannot hurt them. Lightning leaves them absolutely untouched. Not even fire can menace a barn so closely armed with metal at every point of exposure.

They give strength, safety, security. They relieve the farmer of every fear of loss. They are perfect barns—barns for business-minded farmers to own.

BUILT BY BARN-BUILDING EXPERTS.

The enormous resources of a big, fire-proofing industry are now used for building these better farm buildings. The old-style timber barn is now being replaced. We are showing farmers how to build barns good for all time—barns that reflect prosperity and wise buying. . .

SAVE COSTLY LABOR.

To-day these barns are a greater boon than ever. Labor is scarce. Labor is costly. The old-time way of barn-raising is quite of the question.

But a lightning-proof Preston Steel Truss Barn can be put on your place complete inside of two weeks. Five to ten men is the largest gang you will need. Little worry for you or the womenfolk

We meet the labor difficulty for you. The gang work is done at the factory. All the planning, measuring, cutting are done here by experienced brains and money-saving machines.

NO DEAD SPACE—DESIGNED BY AN EXPERT.

An expert barn-builder of international reputation will draw up the plans for you—to meet your own special needs exactly. His experience in building over 300 barns should help you greatly.

You'll be proud of this weather-proof barn. You'll like to work where every square inch is open and clean. No timbers will occupy or kill valuable space. Everything will be compact, dry, clean, well-lighted. No barn could offer a sturdier resistance to stress and strain of storms—and yet, there is not a piece of timber that one man cannot lift.

Every day's labor, every hour's delay means much to you. That is why we feel you will give the Preston Steel Truss Barn serious consideration.

VALUABLE INFORMATION AND EXPERT ADVICE ON BARN-BUILDING FREE TO EVERY FARMER.

You can learn a good deal from the information printed in a book we gladly send you for the asking. You can learn more by writing to our barn-expert who is at your command. Our whole organization stands behind him, ready to help you.

There are hundreds of farmers who can tell you of our barn-building achievements. They are proud of their metal-clad barns because they are so fine and convenient. They are satisfied with them, too, because they know they are a good buy—absolutely beyond comparison with the old, unsafe, rough-and-ready style of barn.

You will feel an even greater confidence in our work if you let us put you in touch with these proud and satisfied owners.

Above all, don't hesitate to ask our advice. We wish to be at the service of every farmer who thinks of building a barn this year.

(Signed) **C. DOLPH, President**

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Stands Supreme

above all other chewing tobaccos and was brought to perfection only after years of careful test and study

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March Work on the Farm

Continued from page 35.

feeding stations says. Why not consider a mixture for the Spring?

The European countries will demand American horses for the next decade. Breed your best to the best.

Any farmer desiring to breed first-class horses can be materially helped by John Bright, Dominion Live Stock Commissioner.

Regulate the length and bearing of your colt's feet, if you would have a sound horse later on.

The majority of feeders waste hay in feeding horses. When a big horse eats more than 20 lbs. a day along with his grain, he is wasting it. A lb. a day for every 100 lbs. of weight is a good rule.

It will be wise to clip off the long hair from the horses legs where heavy and muddy work has to be done.

Hay is unusually dry this year and therefore dusty. Dampen it before feeding.

Above all, do not swear, yell at, or excite the horses at any time. The quiet firm man always owns the best horses.

How is it that horse prices are good and even on the rise, and the sales of autos going up too!

Within the Sheep Fold.

Constant attention to the ewes now will save many lambs and lambs mean money.

After the lambs are two weeks old, they begin to eat and should have a trough from which the old sheep are kept by a creep.

The grain for the lambs may conisst of oats, corn or wheat. For very young lambs the grain may be cracked, but never finely ground.

If the ewes are in the sheds while suckling the lambs, it will pay to feed the ewes grain.

Ewes suckling lambs before grass, should have three or four lbs. of roots in their rations.

Dock the lambs when they are a week or 10 days old, cutting the tail about one inch from the body.

If you will look up your files of the FARMER'S MAGAZINE, March, 1915, you will see Grasmere's advice to get into sheep. It has certainly been well proven.

In case of a caked udder, massage with lard and turpentine made into a paste. Careful watching of ewes expected to lamb will pay better. Lying on cold ground often brings this trouble.

If the lamb is chilled at birth, dip it into warm water and feed some mother's milk from a spoon, until it can be taught to suckle.

Late Blight on Potatoes.

Late blight on potatoes caused fully one-half the loss on potatoes in New Brunswick in 1916. But it can be controlled by spraying with Bordeaux solution about six times during the season. Either Paris green or arsenate of lead may be used in the solutions at any time for the control of the potato bug. It is important that the nozzle for the spraying be one that will send the spray out in the form of a very fine mist, as the finer the spray goes on, the more effective it is.

God's Green Country

Continued from page 25.

tation of a few of her passing moods had grown into his thoughts of her. She greeted him with the assured graciousness cultivated of constant social experience that he knew nothing about. He was frankly embarrassed and he didn't care. Weighed against her cool indifference, it seemed to save a remnant of reality in his dream.

The April evening out of doors was inviting. The night air was sweet with the perfume of budding orchards, the roads for miles around were smooth and damp, and the Department of Agriculture car was at their service. Billy considered her dress, doubtfully; very pretty it was, sheer and white, with little blue flowers sprinkled over it; very short, like a little girl's, showing white silk stockings dotted with same blue flowers.

"I just wondered," he ventured, "if you'd care to wrap up and come for a drive?"

Her composure left her instantly. She drew in her breath in childish anticipation.

"Down to the city?" she asked. "I haven't been there for ages. They're playing The Follies to-night. Do you think we'd be in time if we hurried?"

A few minutes later she ran downstairs in her motoring outfit, followed by her mother. She was very proud of her mother, because, impressed by the striking resemblance, people always thought, "Just like the daughter will be twenty years from now." She was very pretty, willowy and girlish with a youthfulness that told of painstaking preservation, effusively gracious, in a subtly superior way, years of social practice in the same groove having equipped her with a supply of stock-phrases ready to be tripped off glibly to any occasion.

"You'll take good care of our little girl?" she said. "She doesn't make a practice of running off like this unchaperoned, but we want her to have a good time and it's really very dull for her here. Since Mr. Evison got the farming bug he has become a hopeless recluse. He runs out to the farm almost every day, and I tell him he'll soon be driving his own pigs in to the market." She laughed gaily at the idea, a silvery little descending scale, and Billy wondered why she should have bothered for him. "You're connected with the Farmers' Institute or something here yourself, aren't you?" she continued.

Billy explained as briefly as he could what he was trying to do, and received at the end of each department, the safe comment, "How interesting!"

Of course it wasn't interesting, as he told it. There's nothing interesting about dealing out setting eggs, and potatoes to school children all day, and trying to round up elusive and indifferent farm laborers at night. Personally he saw something very much worth while beneath these externals, but weighed by her standards they shrank perceptibly. Not that he attached any importance to her judgment, only she was Marjorie's mother, and her opinion might matter a good deal.

Nature never intended a motorist to speed through the soft dusk of an April night in the country. The breath of the balm of Gilead tree, the scent of whitethorn blossoms, the rich earthy odors from

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"Astonishing how my
Strength and Fitness
came back," says Mr. Inman, a Winnipeg business man, cured by Dr. Cassell's Tablets.

"It was astonishing how my strength and fitness came back," says Mr. G. C. INMAN, of 330, HARCOURT STREET, STURGEON CREEK, WINNIPEG, for many years a well-known man in the business life of Canada. Mr. Inman continues: "It is about three years now since I first used Dr. Cassell's Tablets. I was terribly run-down and weak. Sometimes I felt I should have to leave off altogether, my work was such an effort to me, I ate little, I had no appetite, and I suffered if I forced myself to eat.

"My nerves of course were in a bad way, and my sleep very disturbed. Everything, in fact, pointed to a nervous breakdown. It was then a friend told me about Dr. Cassell's Tablets, and I got some to try. The first result was that I could sleep at nights, and then my health rapidly improved. It was really astonishing how my strength and fitness came back.

Mr. G. C. Inman.

"I may add that some time ago my mother was very ill with pernicious anæmia. I urged her to take Dr. Cassell's Tablets, but she would not, so I crushed them down and gave them in food without her knowing. She was confined to bed before she had the Tablets, and now is about again well and bright."

Mr. Inman is now in England having had to return there some little time ago to take control of the well-known firm of A. W. Inman and Son, Printers and Publishers, Leeds. Letters will reach him there.

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On receipt of 5 cents to cover mailing and packing, a generous free sample will be sent at once. Address: Harold F. Ritchie & Co., Ltd., 10, McCaul-street, Toronto.

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fresh-plowed fields, were lost in a chill damp wind driving in their faces; the blurry outlines of heavily tasselled willows on the roadside, and lamplight pictures caught through the windows of farm houses—mothers bending over children at their lessons, or a late supper group where the day's work had been unusually long, all shot past like dizzy films on a crazy reel; the musical roar of high boiling creeks, and the sleepy chirp of nesting birds were drowned in the pounding of the engine. It wasn't the hilarious joy of speeding, just the strained sitting-tight and making time. There was a rough, noisy climb up a stony hill, and the city glittered in a bowl below.

They coasted down silently, and when Billy could take his eyes from the wheel, to fairly look at the girl he found her bright with excitement.

"I wonder if I'll see anyone I know," she said.

The play was not inspiring, to make the best of it. This didn't matter much to Marjorie, because she had not forgotten her opera glasses, and seemed to find a wonderful interest in searching the audience. Suddenly she brought the glasses down, and directed her attention solely to Billy and the stage. Billy didn't look near the stage much; his knowledge of plays was limited but critical, and on the night when the hope of four years had its first gift of reality, it would have seemed a prodigal waste to give his attention to stage fiction. He found quite Heaven enough for the present in her nearness, the beauty of her white regular profile, and her adorable way of leaning the merest trifle over the arm-rest between them.

When it was over, and the car was gliding quietly over the road home, she slid down snugly in the seat like a satisfied child, and he thought, with large plans for the future, how little it took to make her happy. He didn't know, of course, that the satisfaction of her evening had begun when her glasses caught the attention of a very desirable acquaintance whose interest of late seemed to require some stimulation. If she had had all gifts of the gods at her command, nothing, she reflected could be more effective than to be seen with Billy with his good looks and the unaccountable impression he gave of "being somebody." None of her friends would know who he was, of course, and she didn't intend that they ever should know. Altogether she had spent a very profitable evening. Then there was something very gratifying about Billy's company; he gave so much and asked so little. She was accustomed to lavish attention from other men, but none of them ever offered her the deference of a saint and the indulgence of an irresponsible child. It was an understood part of their social code that she work her resources to the limit to be entertaining, that she make the most of her beauty, that she play the game for what it was worth. With this she had an easier trick of her own—to set them off against each other through the gentle art of inviting opposition.

The balmy softness of the evening had gone and the air held the chill of midnight. The lights were out in the houses except an occasional night-burning lamp turned low in a kitchen. They saw one bent, white-bearded old man with a lantern coming from the barn, presumably making his anxious nightly rounds to the sheep-fold during lambing time. Mar-

The Light Four
5 Passenger Touring
$930
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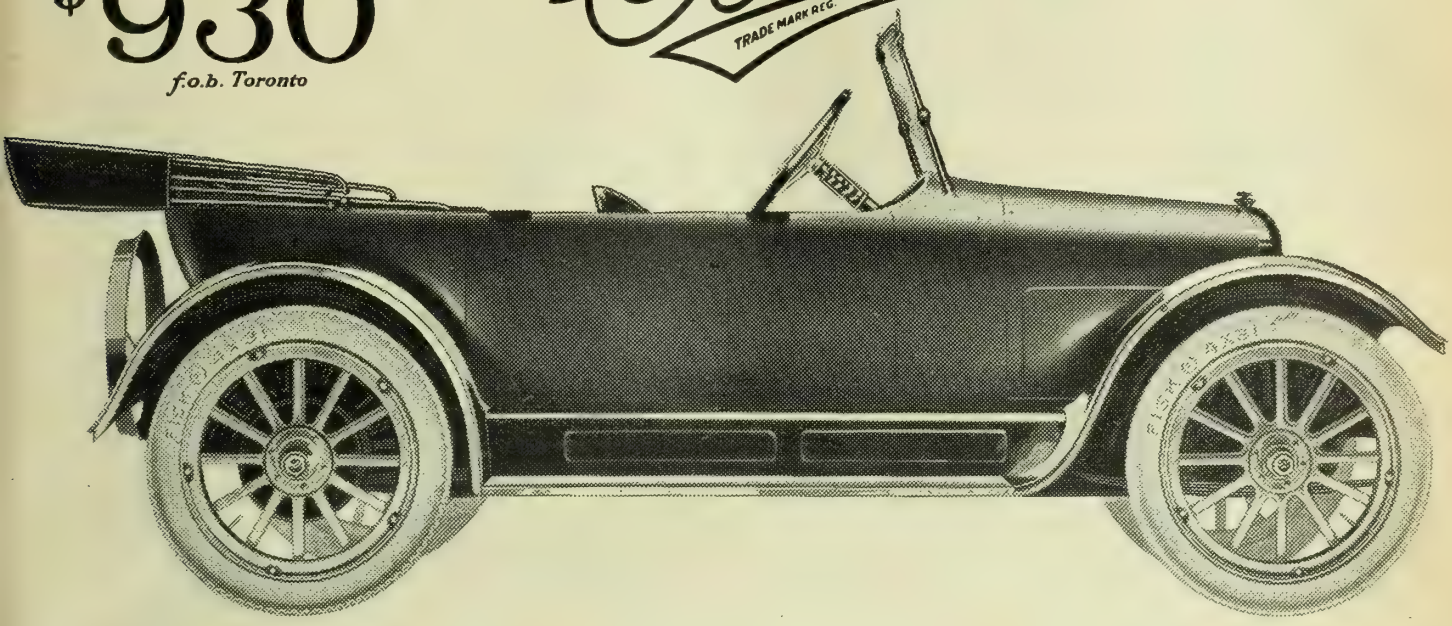

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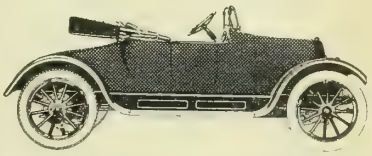
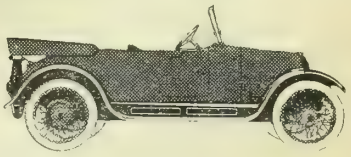
Yet this is but one of the new Willys-Overland values.

Never before have the economies of vast production been available for buyers of every class of car.

And the Overland Policy of greater production, higher quality, lower price is exemplified in every model and type.



Two Passenger Roadster
Light Four, 104 in. wheelbase, $910



Four Seater Sport Model
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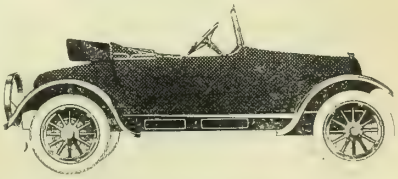
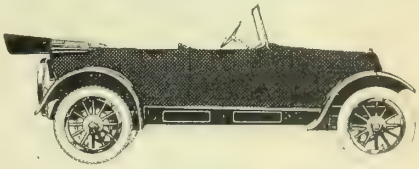


Big Four Roadster, 112 in. wheelbase, $1170
Light Six Roadster, 116 in. wheelbase, $1360



Big Four Touring, 112 in. wheelbase, $1190
Light Six Touring, 116 in. wheelbase, $1380

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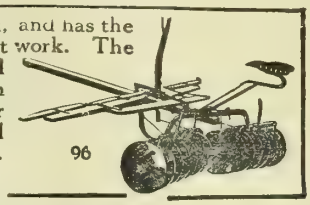

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T. E. BISSELL COMPANY, LTD., ELORA, ONT.

See advertisement also on page 18.

jorie roused from her reverie and shivered a little.

"How terribly lonesome," she said. "I don't know how they stand it to live here all the time, but I suppose some people are made for that sort of thing."

"I suppose so. I'd rather farm than anything else."

"You would? Of course you mean to manage a farm, or to advise other people like you're doing now. That's different."

Billy smiled.

"You don't advise people much at this job," he said. "You just try to get the community in line with whatever service the Department of Agriculture (which is their own) has to give them." And then because he didn't want her to have any illusions as to the dignity of his work he outlined in detail some of its humblest phases.

"How very funny," she laughed. "You must be very much amused sometimes, but it must be an awful bore, too, dealing with that class of people day after day. Someone's generally at home at our house. I know you'd like Dad and I hope we'll see heaps of you."

"That's very kind," he said, genuinely grateful, "but I didn't mean that I find it tiresome at all. You see it's different when you've always been a farmer yourself, and I'd like to go back to real practical farming on a place of my own."

"Yes?" she inquired, begining to get his view-point. "I know a girl friend of mine—and they're very nice people, they have a farm that they live on the year round, and all summer her father wears a white suit and goes right out among the men."

Then Billy must have touched something, for the car shot out suddenly, and they didn't discuss things agricultural any more. He had about decided that the case was hopeless.

The lights were still bright in the house when they drove up, but she led him around to a side door opening into her own little sitting-room. Someone had just kindled a fire on the hearth, and slipping out of her coat she dropped down on a stool. Billy looked down at her with a tenderness that he wouldn't have dared to let her see, then his eyes wandered to a few of the room's features that clamored for attention.

It was decidedly a girl's sanctum. The one soft-shaded light was turned low, but the flickering blaze from the fire showed the walls gay with pennants. On the mantel, the little French writing-desk, and here and there in odd spaces on the walls were photographs; she seemed to have a preference for college graduates in gown and sheep-skin and the smiling assurance that usually goes with a degree before experience has tested its infallibility as a talisman. On a table in the centre of the room, a vase of tall American Beauties served, no doubt, to keep green the memory of some very ardent or wealthy admirer.

A less prejudiced person might have seen in the collection of trophies something in common with the scalps decorating the walls of an Indian tepee, but to Billy it only emphasized his infinitisimal place in her world. There was something very sober and kind in his eyes when they came back again to the thoughtful face with its starry eyes and childish pursed-up mouth and the mysterious touch that comes from the glow and shadows of the firelight. He thought how sweet and be-

coming this seriousness was, compared with her lighter irresponsible moods, and he looked ahead to the time when life would have taught her more of its meaning. Then the little Swiss clock chimed out twelve and he came to, apologetically.

"When may I see you again?" he asked.

She drew her brows together and counted on her fingers a list of engagements for a week.

"You'd better call me up," she said. "I'm never sure of what I want to do for a day ahead."

It was the beginning of many such evenings, distracting, uncertain, alluring but promising nothing, and the agricultural office suffered accordingly.

CHAPTER VIII.

VERY often, in planning his trips to examine the children's school gardens, Billy arranged an itinerary touching the neighborhood of the Evison home, and took Marjory with him. Very gay little picnics they had. A bank of violets or a nest of young robins never failed to move the girl to ecstasies. They generally stripped the bank of its flowers and she carried them away, withering, laced through her hair and knotted about her dress; and it took a great deal of moral support to keep her from taking the young robins out in her hands to feel the softness of their feathers.

"That's the way I love things," she pouted when Billy had warned her of the subsequent fate of the birds if she touched them. "If I want a thing I *want* it. Life must be very easy for you cool, slow-feeling people who can sort of stop and calculate before you know whether you really care about a thing or not."

If the picnicking did claim undue importance and time in the garden examining, it did not save her from getting a few glimpses of the sterner phases of country life. In the middle of one hot July afternoon they drove up to a farm home and found the woman bringing in lines and lines of fresh-smelling clothes. She had done the washing herself that morning and judging from the shine and order of her kitchen she had done several other things besides. She wasn't dressed in any regulation afternoon costume; her gingham dress was turned in low at the neck and the sleeves rolled back at the elbows. A few little damp tendrils of hair cropped out from under her sun hat. She was thin and tanned and a little tired looking, but something about her gave a wholesome impression of health, happiness and usefulness. A perfect little Sandow of a boy a year or so old slept on the porch in a crib canopied over with mosquito netting, and two others in blue overalls hung shyly in the background.

Marjorie was surprised at the dignified kindness of the woman's greeting. She wasn't at all embarrassed to be found taking in her washing, but she put her basket down and gave her attention entirely to her visitors.

"I'll take Miss Evison in where its cooler," she said to Billy, "and when the boys have taken you over their garden they have something to show you in the house."

The feature of interest in the house was a big velvety cycopia moth, clinging sleepily to the curtain—one of the rarest of Nature's beautiful creations.

"Their father found the cocoon on a peach tree," the mother explained, "and we have all been watching it ever since. They're learning a lot from their gardens and chickens and explorations of the fields, that will give them a clearer view of things when the time comes for them to need it. Never a day goes now but I thank God that I am allowed to have my boys grow up on a farm."

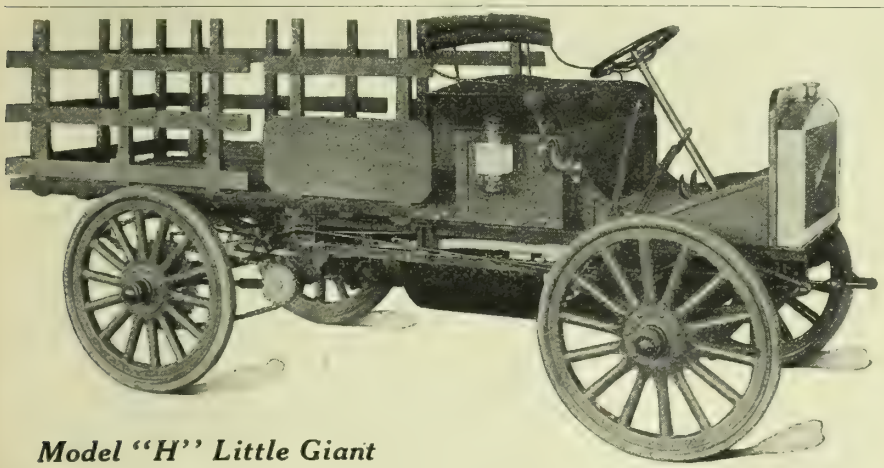
"I didn't expect to find her like that," Marjorie remarked when they left her, "so perfectly at ease and so sure of herself. She isn't the average type of farm woman is she?"

"There isn't any average type of farm woman," Billy exclaimed. "They have the most individuality, are the least run in a conventional mould, of any class of women I know. This Mrs. Burns was a trained nurse before she was married. There are a dozen others just as fine and capable scattered through the neighborhood. The community doesn't know much about them because they're so everlastingly busy they can't get away from home much."

"Can't they get help, or don't they want to spend the money?"

"Some of them could afford help, but you can't get a girl to work in the country. The city offers them good wages, and most of them have even an exaggerated idea of the inconvenience of a farm house from a woman's standpoint. Naturally a girl prefers to work in a house where the water comes hot or cold from a faucet in an enamel sink, instead of where it has to be carried from a pump in the yard, where the washing is done with a power machine or sent to the laundry instead of being scrubbed out on a little zinc washboard, and a hundred other details that make the farm undesirable for a city girl."

Continued on page 64.



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Farm Engineering

The Disc Harrow.

The Great value of the disc harrow lies in the following principles:

(1) Preparing the surface of the ground for the rapid percolation of moisture which falls in the form of rain.

(2) Preparing the ground to conserve moisture already in the soil.

(3) Pulverizing a cloddy field to improve its physical condition.

However, it is the implement itself, rather than the work it does, that we wish to discuss.

On account of its rolling action the disc harrow can be used under many conditions. In the West its chief work has been working down prairie sod. The standard disc has either full round discs or cutaway discs, 16 inches in diameter and spaced 6 inches apart. The number of discs varies, but 16 is a very common size. The 16-inch disc rotates at a greater speed than a larger disc and having less bearing surface penetrates the ground more. This is an important point. Disc harrows should have one lever for each gang. When "lapping over," that is, allowing the disc to extend half way over the work of the previous round, is practised, the ground is left level and not ridged. The half of the disc working on the once disced land finds less resistance than the half working on the undisced land, so that by setting the part in the loose soil at a greater angle the implement pulls straight, at the same time doing better work. There is also a decided advantage, with two levers, in hillside work. The machine has a tendency to crowd downhill, and this can be overcome by adjusting each gang separately.

The full blade and cutaway discs are the most common types. The former does the better work. The writer has seen excellent results from a double disc having full blades on the front section and cutaway blades on the rear.

SCRAPERS.

A disc harrow should have scrapers that are easily adjustable and that will keep the discs clean under all conditions. The scraper with a narrow blade, which can be moved from the centre to the outside of the disc is very satisfactory. There must also be good clearance between the standards, which support the frame and the discs.

BEARINGS.

Next to the cutting edge the bearings are most subject to wear. They are usually made of maple wood, which has been boiled in oil, and being reversible, last a long time. These are easily replaced when worn, by new ones. See that the oil, hard or machine, gets to the bearing. The writer saw a disc that had been in use for four seasons, it was oiled regularly, but several holes in the castings had never been drilled through, before the machine left the factory. The result was the bearings were badly worn. Herein lies the secret of long life for any machine. *See that the oil gets to the proper place.* Trouble of this kind can only be located by a very careful examination. All machines should be thoroughly overhauled once every season.

The end thrust must be taken care of effectively, either by bumpers (in an outthrow disc) or by thrust bearings (in an in-throw disc). In some of the new makes thrust bearings are used in both types. In the former the pressure is towards the centre as the soil is thrown out, with the latter exactly the opposite takes place.

Ample provision must be made to take this severe end thrust. Turning at the ends of the fields with the disc set at an angle is a very bad practice. It is hard to believe, that some farmers leave their plows in the ground when turning. Is it any wonder the frames get twisted?

The following data on the draft of tillage implements are interesting. They are taken from the book "Power and the Plow," by Ellis Rumeley.

	Disc Harrow	Drag Harrow	Crusher
Width in feet	8	20	10
Weight per foot....lbs.	70	16	138
Horses required	4	4	4
Approximate draft.lbs.	600	600	600
Draft per foot ....lbs.	75	30	60

—J.M.S.

Is the Spark Good?

To find out, examine the ignition while the engine is running. Remove each of the wires from the spark plugs and holding each in turn from the plugs a short distance determine if a spark is being delivered. If a good spark is obtained you may be sure that the lead wires and magneto are in good condition and if this is so the trouble must lie with the plugs. They may be fouled with carbon, oil, or water, and the remedy in each case is obvious. However, if none of these causes seem to account for the trouble there may be a leak in the insulation, such as a cracked porcelain. Have a new plug in the tool box and fix the defective one at leisure, because an outfit should never be held up from such a cause. Now the spark is alright.—J.M.S.

Horse Power Rating.

On page 63 of your January issue the following statement appears:

"Therefore one could logically compare a 15 drawbar horsepower tractor with 15 horses."

I strongly object to that as it is misleading to the ignorant and may cause a man some heavy losses. Under favorable conditions a 15 drawbar h.p. tractor may be compared to 15 horses, but under adverse conditions it cannot begin to compete with horses.

This spring I worked 3 horses on a 16 in. sulky and plowed 3 to 3½ acres a day. The horses averaged from 1,200 to 1,300

lbs. each; it was hard work, but they kept in flesh. Now I doubt if there is a 15 drawbar horsepower tractor which will do 12 acres a day under the same conditions.

This fall in trying to plow the same land which the horses plowed in the spring, with my 10.20 tractor, I had so much trouble with the engine digging herself in that I had to give it up and go to more level ground.

Where horses have their greatest advantage over engines is in their ability to deliver more than their "rated" horsepower. A certain sized horse which under normal conditions develops one horsepower will under adverse conditions develop up to 4 and 5 horsepower, whereas a tractor can do no such thing and leaves you stuck, whilst horses pass right along up the hill or over the soft ground, which ever it is.

In my opinion the tractor has not yet been built which will compete with horses under all conditions; what I believe is required is an engine of light weight which can secure for itself good "footing," and of much higher horsepower than any yet turned out. The large tractor fell down because it packed the soil for one reason; the light tractor is apt to come to grief because it is so light that it does not get sufficient grip on loose soil, and there is hardly a tractor built which has not some serious fault in its design, which usually causes a large amount of serious trouble sooner or later.—W.H.H.

Motor Schools.

A few weeks' course at an auto school would be a valuable help to any farmer or farmer's son, not only in the matter of running an auto or a motor car, but in handling all gas engines. And the more expert knowledge a man has the more money he will save by cutting out repair bills due to ignorance, and the visits of experts to right some simple difficulty. We ought to have more expert farm engineering schooling.

Okanagan Happy

In 1915, the Okanagan Valley, B.C., shipped more than 3,200 cars of fruit and vegetables. Although the figures for 1916 are not compiled, it looks as if the total will be about 3,500 cars. They look for a 4,000-carload crop in 1917.

FARM STORIES WANTED

What is the best move you ever made on your farm to increase your yields?

What is the best combination of interests on a small farm to assure the owner of a decent yearly profit?

Write plainly on one side of the sheet, stating facts and figures where possible. A photograph would add much to the effectiveness of the story. Make story not over 500 words.

Prizes of $5 for 1st, $3 for 2nd, and $2 for 3rd best articles received on either of these subjects. Articles to be mailed before March 1st. Address Editor, FARMER'S MAGAZINE, 143 University Ave., Toronto, Can.

Would you own a house fit to live in only in the Summer?
Would you keep a horse that went lame every Winter?
Would you retain an employee who annually insisted on a several months' vacation?
Why, then, be satisfied with roads that every year go off duty for months at a stretch?
That is exactly what the old-style road does. The first big Winter storm turns it from a comparatively useful, smiling road into a sullen, rebellious one. It remains "on strike" until the sun is strong enough to dry up its muddy quagmires.
How different with

Permanent Highways of Concrete

365 days they are at your service, not a day's holiday do they ask. How we need such roads! What a country this will be when at last we have a complete network of them joining town with town and linking all our farms with their respective community-centres! Each one of us can do something toward bringing it to pass. Every citizen of Canada can "do his bit"—by talking Concrete whenever roads are mentioned. But to *talk* Concrete, we must *know* Concrete. We have collected and "boiled down" for easy reading a large amount of information on the subject—free to you if you write

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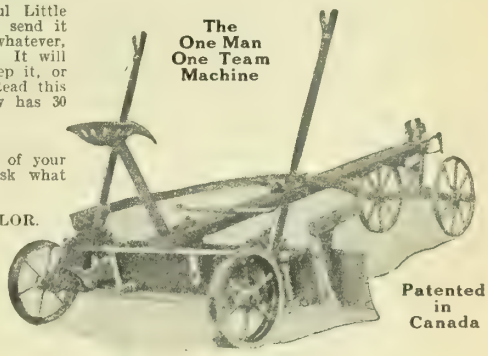
"CONCRETE FOR PERMANENCE"

FREE To any Municipality that is willing to give this machine a trial we will ship it freight paid. We know the merits will sell it.

If we have faith enough in this wonderful Little Panama, Jr. Improved Grader and Leveller to send it to you freight paid with no expense to you whatever, you can certainly find time to give it a trial. It will be up to your own good judgment to say. Keep it, or send it back. Why do we make this offer? Read this letter from a councillor in a county that now has 30 of these machines, it is convincing.

The Exeter Mfg. Co., Ltd.,
Dear Sirs.—Last fall our Council bought one of your Panama Jr. graders, they requested me to ask what you would charge for four more.
Yours truly,
A COUNCILLOR.

Dimensions—Curved moldboard 6 ft. long by 10 inches wide, blade is 6 inches wide, combined with 13 inches. From centre of front truck to centre of rear, 7 ft. Main beam is made of channel steel. Front wheels are 16 inches high, rear wheels 16 inches with roller bearings. Furnished complete with tongue and steel doubletrees. Weight 600 lbs.



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issues Debentures, secured by all the Assets of the Company, in any denomination, for from 2 to 5 years, at 5%, payable half-yearly, and they are a legal investment for trust funds. Company's surplus, over all liabilities to public, is $1,296,914.00. Mortgage loans made on improved farms at lowest current rates.

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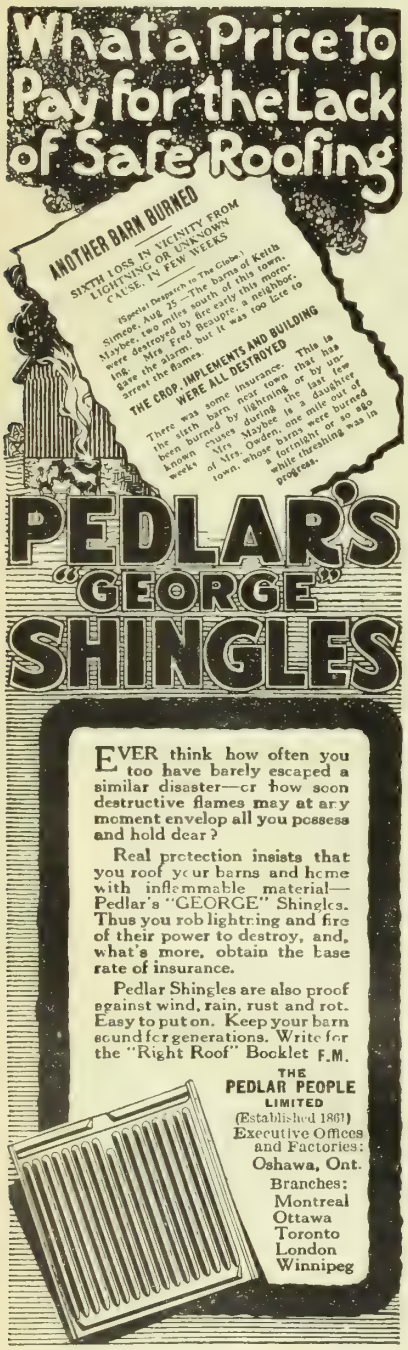

Investments and Insurance

For the Farmer

Agricultural Co-operating Societies in England

The 560 agricultural co-operative societies in England had in the year 1915, a complete turnover of over £3,000,000. The co-operative dairies organized by the Agricultural Organization Society are now dealing with about 20,000,000 gallons of milk annually. The society has established an Information Bureau for supplying branch societies with the prices ruling in different markets for fruit, vegetables and eggs, and the information has proved of special service to small producers.

Ford Tractor Co. Stock

J.H.M., Ontario.—Would you kindly advise me as to the wisdom of investing in the Ford Tractor Co. of Minneapolis. Suppose a man had four or five hundred dollars to invest, would it be wise to invest one hundred with this company? To me it looks all right. It looks like a business that is well started on its way, with a future assured, supplying an implement that will be in great demand. Enclosed find stamp for reply.

Answer.—I have your inquiry of the 30th ult. *re* investment in the Ford Tractor Company. This company is prejudiced in my mind by its apparent steal of Henry Ford's name. But my advice, and I think it will be borne out by others, is, that for a man with $400 or $500 to invest, to keep away from industrials altogether. Why not invest in the War Loan, which now yields about 6 per cent. and is safe. That is about all you could hope to get in any industrial for some time, and if more is given, it is the element of uncertainty that prompts it.—C.

How Money Grows

One of the Toronto strong mortgage corporations publishes a table showing how money grows at compound interest. It is worth a study by every person who will realize more fully the cumulative power of money. A farmer who gets the habit of thriftiness without becoming a miser will know how to better expend money in his farm management and household comforts. The way money grows is here noted. This is calculated on a 3½ per cent. interest rate compounded half-yearly.

Thus a farmer who banks $5 a month for 20 years, has in ready cash at the end of 20 years, $1,734.45. A nice nest egg indeed!

HOW MONEY GROWS.

Monthly Savings	One Year	Two Years	Three Years	Four Years	Five Years	Ten Years	Fifteen Years	Twenty Years
$ 1	$ 12.22	$ 24.88	$ 37.99	$ 51.56	$ 65.61	$ 143.65	$ 236.47	$ 346.89
2	24.44	49.77	75.98	103.12	131.22	287.30	472.94	693.78
3	36.67	74.67	113.98	154.69	196.83	430.96	709.41	1,040.67
4	48.89	99.56	151.97	206.25	262.44	574.61	945.88	1,387.56
5	61.14	124.44	189.97	257.82	328.06	718.28	1,182.38	1,734.45
10	122.28	248.88	379.95	515.95	656.13	1,436.57	2,364.77	3,468.91
20	244.56	497.76	759.70	1,031.30	1,312.27	2,873.15	4,729.55	6,937.82
50	611.40	1,244.40	1,899.75	2,578.25	3,280.67	7,182.87	11,823.87	17,344.55

Manitoba Rural Credits

The Manitoba Rural Credits Association is to have its head office at Winnipeg. The proposed bill provides for an authorized capital of $1,000,000, divided into 40,000 shares of $25 each.

The Association shall be authorized to issue bonds to an amount not exceeding 90% of the underlying security, viz., the mortgage. The bill authorizes the Lieut.-Governor to guarantee such bonds up to, but not exceeding a total of $9,000,000, as the money is required, bonds bearing interest at 5% per annum, payable half yearly, guaranteed for the province, free of all taxation and shall be disposed of by the Treasury Department. There will be a Board of Management of five members, the chairman to be known as the commissioner, and to be appointed by the Government.

The mortgage plan is loans secured on first mortgages on the farms within the municipality granting the loan. The mortgages shall contain an agreement for payment of the loan on an amortization plan, by means of a fixed payment of annual instalments sufficient to cover the first charge on the land at a rate not exceeding 5% per annum, and a second charge for administration at a rate not exceeding 1% of unpaid principal. These two rates combined, constitute the annual interest rate on the mortgage. Such amounts shall be applied on principal so as to extinguish the debt within the agreed period of time, not less than 20 and not more than 40 years. Mortgages shall be drawn for 20, 30 or 40 years and shall provide for payments as outlined to retire the loans at maturity. Such payments shall be paid into a sinking fund bearing interest at 3% per annum compounded. Such loans made on first mortgages are for the purposes of providing the purchase of land for agricultural use, for equipment and live stock necessary for the reasonable operation of the farm, to provide buildings and improvements on land and to liquidate the indebtedness of the owner. No loan shall exceed 50% of the value of the land mortgaged. Amount loaned to any borrower must not exceed $10,000.

When Soldiers Go Farming

J.M.P., Canadian Engineers, London, Eng.—I note that Canada is going to give the soldiers 160 acres of land and a loan of $1,500, and are also going to teach up-to-date farming to them.

After receiving the necessary training, we have the soldier about to start on his

career as a farmer with $1,500 behind him in New Ontario or Northern B.C. Let us suppose that along with 6, 8, or 10, or even 12 neighbors organize a co-operative association to buy the more expensive farm machinery, such as threshing outfit, and binders, etc.

What are the best policies to fulfil to make a success of farming, such as number of acres to get cleared, number of horses, cows, hogs, to buy; also machinery, buildings, etc., with approximate cost, so as to get full value for his limited capital.

Such an article as this would make an interesting study to the majority of your readers just starting out in farming, or giving farming serious thoughts as a good business proposition.

Answer. — The Dominion Government are formulating plans for colony work that you will be particularly interested in what Ontario proposes. The Legislature has under consideration now a scheme, well worked out, whereby every chance will be given the soldier who wants to farm to get into a going proposition. It is proposed to have a board at Toronto to examine all applicants for land grants and if reported favorable, the soldier will be sent to a training farm at Monteith, where extensive provisions are being made. Here he will be under the instruction of competent men who will take up every phase of farm work from logging and land-cleaning to livestock and marketing. Wages will be paid him while he is learning and perhaps a separation allowance. When ready for it, a dozen or so will be sent to form a nucleus on the clay belt, where farms will be made ready with ten acres on front cleared, a house and barn put up and a loan given him of $500 repayable on the amortization plan. Besides this, he will be able to get the use of all horses he wants from the central station, to use the big machinery, enter a co-operative plan for threshing and marketing products and be advised and helped in all questions by the District Representative in charge. The man's family can be brought out as soon as the house is ready. Amusement halls where entertainment, instruction, moving pictures, and church services may be held, will be built in each centre. At the end of five years he will have paid his loan and received his patent.

Soldiers who may desire to go into fruit raising and chicken farming or other like agricultural pursuits will be given free instruction at the public institutions of the province. For further particulars write the Minister of Agriculture, Toronto, Ont.

INSURANCE

Should a Farmer Insure?

By MURTON CARTER.

Life insurance is a well-devised scheme of protecting those dependent upon the bread winner. Most farmers in starting out on life's work have to go in debt for their farm or its equipment. With good health and management, each year sees a substantial reduction in the mortgage.

In the meantime the family is increasing and the wife, perhaps, not quite so

Invest your Money in Canada

The Dominion Government urges that Canadian Securities should be held by Canadian Investors. Taxation is likely to be imposed on non-Canadian Securities. You can be patriotic and at the same time, obtain a certain 5% for your money by investing your funds in

Standard Reliance Mortgage Corporation Debentures

This Canadian Security does not fluctuate in value. It is repayable at certain fixed periods. Meantime, it bears interest at 5 per cent., payable half-yearly at your local bank, in cash, on the day it is due.

Thousands of people have invested their savings in these debentures without the loss of one dollar invested. The debentures are issued in amounts of $100 and upwards for a fixed period to suit your convenience.

Write for our booklet entitled "PROFITS FROM SAVINGS." It explains what these Debentures are and why they are so good a security.

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The strength and progressive record of The Great-West Life, its investment success, its favorable Mortality and low expense rates, the liberal Policy provisions and measure of Service to Policyholders—all reach the most rigorous standard of comparison.

Ask for descriptive literature and rates, giving date of birth.

THE GREAT-WEST LIFE ASSURANCE CO.

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In requesting information ask for a 1917 Desk Calendar.

TO INVESTORS

THOSE WHO, FROM TIME TO TIME, HAVE FUNDS REQUIRING INVESTMENT MAY PURCHASE AT PAR

DOMINION OF CANADA DEBENTURE STOCK

IN SUMS OF **$500** OR ANY MULTIPLE THEREOF.

Principal repayable 1st October, 1919.

Interest payable half-yearly, 1st April and 1st October by cheque (free of exchange at any chartered Bank in Canada) at the rate of five per cent per annum from the date of purchase.

Holders of this stock will have the privilege of surrendering at par and accrued interest, as the equivalent of cash, in payment of any allotment made under any future war loan issue in Canada other than an issue of Treasury Bills or other like short date security.

Proceeds of this stock are for war purposes only.

A commission of one-quarter of one per cent will be allowed to recognized bond and stock brokers on allotments made in respect of applications for this stock which bear their stamp.

For application forms apply to the Deputy Minister of Finance, Ottawa.

DEPARTMENT OF FINANCE, OTTAWA,
OCTOBER 7th, 1916.

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Perhaps some simple device you thought of for your own use may be valuable. Write for free book of complete information.

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and meanwhile puff gently at your pipe filled with fragrant slow-burning, satisfying Master-Mason,

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"IT'S GOOD TOBACCO"

and the coolest, smoothest, sweetest smoke obtainable. Made of selected fully-matured tobacco, pressed into a solid plug Master-Mason is the sportsman's choice being convenient, easy to carry, easy to cut, handy and always in prime condition for smoking.

Equal by test to the very best,
Much better than all the rest.

Say MASTER-MASON to your dealer — he knows.

PRICE: 15 CTS. THE ROCK CITY TOBACCO CO., LIMITED

able to do the work that she sees must be done around every active farmstead. And while the times are good and everything is going smoothly there seems no possibility of want staring the family in the face. Yet the sudden death of the father and breadwinner would leave the family in a desperate position. The more so if values had fallen and the proceeds of the cleaning up did not pan out as they could have been managed by the one who was guiding them.

There is clearly a risk on every farm, and just as the business man considers it necessary to insure his life for the benefit of his enterprises while he is striving to introduce a business and push it through its critical years, by taking out a policy in some reliable company with yearly premiums easily within the reach of every one, there is always the certainty with the farmer that his departure would enable his wife to hold the place together and to control things to her greatest advantage.

There are many forms of insurance. Because some men have lost out in some fraternal schemes and weak companies does not argue against insurance, any more than bad money argues against one taking a good 50-cent piece when it is offered.

I believe that more active farmers in Canada should consider the placing of enough insurance upon their lives to cover their liabilities in case of their demise. In the case where a man is an old bachelor the case is not so patent, but even then the insurance may furnish him a safe old age. Now I hold no brief for any insurance company, for I do not care where you place your insurance so long as it is where there is no danger of the company going bankrupt. And Canada has some good companies.

Why Bill Insures

What a monumental tribute to the average man is the business of life insurance! This magnificent spectacle of over five billions of trust funds accumulated for the benefit of widows and orphans. What a tribute to the patience, the sagacity, the sacrifice of the myriad million Bills of this nation.

There were thousands of divorces granted last year. In the same period of time premiums were paid on approximately five million policies, exclusive of industrial contracts. For every divorce granted there were a thousand evidences of happy marital lives, for every evidence of the breaking up of family ties there was evidence that in five million homes some Bill loved some Mary sufficiently to have a care for her future after he was gone. It is a common thing nowadays for some pessimist to point to the evils in our national life and tell us that it was in such a manner that decadent Rome fell, but the silent fortitude of my friend Bill knocks the weight out of the argument of these pessimistic publicists. No man contemplating divorce buys life insurance to protect his wife, and no man could convince me that the foundations of family life are tottering when men continue to insure their lives in constantly increasing numbers.

FILLED WITH FACTS.

"I like FARMER'S MAGAZINE because it is an up-to-date agricultural paper and one built up of facts, not all theory."—Ross O. Sturdy, Ontario.

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$137 of Assets for each $100 of Liability

Holstein Quality Counts

Get King Segis Alcartra Spofford Blood in your calves and see how the dollars will flow to your stock. He weighed 2200 at 2 yrs. 8 mos. He is a son of the $50,000 Bull. His dam, 3 nearest dams of his sire and a sister of sire's dams averaged over 35 lbs. butter in 7 days. The habit is fixed in his blood.

An unbroken succession of extraordinary records. In him dreams of big performances come true. Young stock in Purtelle and Leavens' herds from him for sale. Gordon Manhard found him lately and induced W. L. Shaw, of Roycroft Farm, Newmarket, to purchase half interest in him to associate with the famous Het Loo Herd.

He remains at Newmarket till May 1st, then goes to Bloomfield in beautiful Prince Edward County. Find out more about him. It will pay big. Write or see

W. L. SHAW, Esq.
Roycroft Stock Farm
NEWMARKET, ONTARIO

or

PURTELLE & LEAVENS
BLOOMFIELD, ONTARIO

Better Farming Special

THE GRAND TRUNK RAILWAY

in co-operation with the

PROVINCIAL DEPARTMENT OF AGRICULTURE

The Better Farming Special being run by the Grand Trunk Railway in co-operation with the Ontario Department of Agriculture including the Ontario Agricultural College, Guelph, is being exceptionally well attended. These instruction coaches have been carefully equipped with material showing the most approved methods of producing farm crops, cultivating, draining and fertilizing soils, feeding live stock, dairy operations and equipment, poultry raising and egg production, eradicating weeds, combating insect and fungus diseases, vegetable growing and canning, besides containing departments showing modern household conveniences and labor saving devices and farm water supply, sewage disposal and protection from lightning.

Each department is in charge of a demonstrator capable of giving information to those visiting the train. Everybody interested in agriculture will be made welcome. The cars will be open for inspection from 10.30 a.m. to 5.30 p.m., special lectures being given to school children from 10.30 a.m. to 12 noon.

Evening meetings will be held in the halls indicated below at which moving pictures illustrating up-to-date agriculture will be shown. In addition to moving pictures, lectures will be given at the evening meetings by agricultural experts. Not only men, but women and children will find the evening meetings both instructive and entertaining.

Fare-and-a-third rates will be given on all Grand Trunk Railway trains within a radius of 80 miles, good going the date announced and preceding day, good returning date announced and following day.

This train has yet to visit the following places:

Place	Date	Hall
Beeton	Feb. 24	Town Hall
Creemore ..	" 26	Leonard's Hall
Collingwood	" 27	Court Room
Thornbury .	" 28	Town Hall
Meaford .	Mar. 1	Town Hall
Stayner ...	" 2	Town Hall
Elmvale ..	" 3	Lance Hall
Penetanguishene	" 5	Bijou Theatre
Cookstown	" 6	Town Hall
Thornton	" 7	Temperance Hall
Barrie.....	" 8	Town Hall
Orillia	" 9	Public Hall
Lefroy	" 10	Grange Hall
Bradford	" 12	Town Hall
Newmarket	" 13	Town Hall
Maple	" 14	Masonic Hall

All queries must be accompanied by the writer's name and address. If personal answer is required, enclose a 3-cent stamp. Address all correspondence to Grasmere, THE FARMER'S MAGAZINE, *Toronto, Canada.*

Is Going to Farm

L.M.C., Prince Edward Island.—I wish to study farming during the winter. Would you be kind enough to give me names of good veterinary and agricultural books.

Answer.—Personal reply mailed to you as requested.

Farm Supplies and Books.

L.W.B., Ontario.—Where can I get back numbers of the Adventure Magazine of 1910, 1911 *and* 1912? *Also names of companies in market for felt roofing, wire fencing and silo lumber?*

Answer.—Write Britnell & Co., Yonge St., Toronto. Do you mean to buy roofing, etc., or to sell it?

Percheron Horses

J.B.H., Ontario.—Could you give me the names of different firms handling or selling Percheron horses and mares?

Answer.—If you will write to the Department of Agriculture at Toronto, Ontario, for a copy of their stallion enrolment horse report, you will get the complete information for the province.

House Plan Suggestions

A.C., Ontario.—I am enclosing a rough plan of our house at present. As we would like to remodel it this spring, we would be very thankful for a suggested plan from you to make it more modern and convenient, and at no large expense. Would like closets in bedrooms, also a door leading to verandah roof on the north, and a bathroom on top floor; on the ground floor we want a dumb-waiter, a hall at the front door, and a pantry off the kitchen.

Answer.—Suggestive plans have been mailed to you.

Cow Not as Stated

J.I., Ontario.—A sold to B a cow stated to be in calf, but it turned out that the cow was not in calf. Can B claim for the loss he sustains, and if so how would he go about it to value his loss.

Answer.—You can always collect damages for breach of any contract and the amount of damages which could be recovered in this kind of a breach of contract depends altogether on how much loss you can prove that you have sustained. If you and the man who sold you the cow are both reasonable men there should be no difficulty in settling your loss, but in case your difference of opinion is too far apart to admit of an amicable adjustment, then you had better sell the cow at a reasonable price and purchase another cow which has just come in. The difference in the price of the two cows is your actual loss. Sue in the Division Court for this amount. I must warn you not to sell the first cow at a sacrifice nor pay a fancy price for the second cow. You should deal with each cow just as you would if you had no right of action against A and wanted to make the changes on your own account. What I mean is that you cannot sell the first cow for $25 and pay $500 for a Jersey. You are only entitled to be put in as good a position as you would have been had the first cow been in calf as agreed.—W.E.L.

Changes in House Plans

O.H., Ontario.—Could you inform me whether built-in conveniences such as book cases, writing-cabinet, buffet, could be included in the plan of the farm house which appeared in the June number of the FARMER'S MAGAZINE. *The plan as it stands suits me in every detail except that it lacks the conveniences mentioned.*

Answer.—To include in the blue prints the features mentioned, would necessitate making new plans, but your contractor should have no difficulty in working these into the house, using the plan as it stands. The more economical way for you would be to take this up with your contractor.

About Pheasants

B.M., Ontario.—Will you kindly publish in your Rural Mail Box some information on raising pheasants. I would like to know how one may get started in it, something about caring for them, and where they may be sold.

Answer.—You will find an article on Pheasant Raising, answering your questions, in this issue.

Forage Crops

J.H., British Columbia.—I would like to know a little more about the green maize and Kohl Rabi as mentioned by James Long in the July issue.

Answer.—James Long was speaking about English conditions as we announced in that article. Nevertheless much of what he said would be applicable to your province. In Ontario Dr. Zavitz advises sowing rape, cabbage, or Kale for forage purposes. A mixture of red clover, sorghum and oats. These are sown in the spring at rates of oats 51 lbs., sorghum 30 lbs., and red clover 7 lbs. The oats and the sorghum are mixed and sown in the grain box of the drill and the clover from the grass seed box. If sown first week of May it will be ready to pasture about June 20th.

Continued on page 64.

Give the "Kiddies" All They Want of

CROWN BRAND CORN SYRUP

It is one of the delicious "good things" that has a real food value.

A slice of your good homemade bread, spread with "Crown Brand", forms a perfectly balanced food, that is practically all nourishment.

So—let them have it on biscuits and pancakes, and on their porridge if they want it.

You'll like it, too, on Griddle Cakes—on Blanc Mange and Baked Apples. And you'll find it the most economical sweetener you can use, for Cakes, Cookies, Gingerbread and Pies.

Have your husband get a tin, the next time he is in town—a 5, 10 or 20 pound tin—or a 3 pound glass jar.

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220

Our new recipe book, "Desserts and Candies", will show you how to make a lot of really delicious dishes with "Crown Brand". Write for a copy to our Montreal Office.

Farmers of Canada!

You are wanting a swift, sure and certain cure for udder troubles, chills and inflammation in Cows and Sheep. TRY the ALL BRITISH remedy

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Cataline was first produced in England 25 years ago, and now has the largest sale of any cattle drench in the old country.

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One bottle mailed direct to any address in Canada on receipt of 75 cents

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MEN WANTED

All classes of labor, skilled and unskilled. Steady work, good wages. Apply

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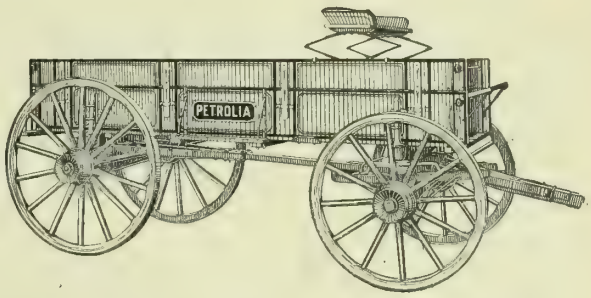
COLLINGWOOD - ONTARIO

Fruit Growers, Read This

Buy your Fruit Trees this spring from the Fenwick Nurseries. All stock true to name, straight, clean, and healthy, ANo. 1 to grade. (Nos. 1, ¾ up 5 to 7 ft.) (No. 2, ⅝ to ¾, 4 to 6 ft.) Apple, Pear, Plum, Sour Cherry, Sweet Cherry, Quince, and Dwarf Pear, and small fruits, at about one-half the usual price. We sell by mail; no agents. We satisfy all customers. Write to-day to

H. W. WILLS & SON, FENWICK, ONTARIO



Petrolia Wagons for Sale

WHEN a man buys a farm wagon, he expects service from it. He will get service if he buys a **Petrolia** wagon. Take the line all through, **Petrolia** wagons can be depended upon to give a full dollar's worth of service for every dollar they cost.

The construction of the wagon is responsible for the splendid **Petrolia** reputation. First, the good material—air dried lumber, tough, strong steel and iron, and high grade paint. Then, the design, right for Eastern hauling conditions. Last, the good Canadian workmanship that builds the material according to the design, turning out a well finished product for the use of Eastern farmers. There are many operations in the making of a wagon which the buyer seldom hears or knows—the soaking of the wheels in linseed oil, the special seasoning given to hubs, the setting of tires so they will stay in place and without charring or injuring the felloe—these and others are regular Petrolia features that make the wagon a profitable one to buy.

Have you seen our rubber bumper skeins, or our block reach, short turn gear? Take a look at this wagon the next time you get a chance, or write to us at the nearest branch house for full details. The **Petrolia** is a wagon worth buying.

International Harvester Company of Canada, Limited

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WEST—Brandon, Man., Calgary, Alta., Edmonton, Alta., Estevan, Sask., Lethbridge, Alta., N. Battleford, Sask., Regina, Sask., Saskatoon, Sask., Winnipeg, Man., Yorkton, Sask.

EAST—Hamilton, Ont., London, Ont., Montreal, Que., Ottawa, Ont., Quebec, Que., St. John, N. B.

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The HYLO is made of a special grade of Imported Long Leaf Yellow Pine—built to last indefinitely—yielding sweet, succulent ensilage down to the last forkful.

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A fully illustrated catalogue and Dr. Jaeger's Health Culture will be sent free on application.

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TORONTO MONTREAL WINNIPEG
Incorporated in England in 1883, with British Capital for the British Empire.

VARICOSE VEINS, BAD LEGS, ETC.
are promptly relieved with inexpensive home treatment. It absolutely removes the pain, swelling, tiredness and disease. Full particulars on receipt of stamp.
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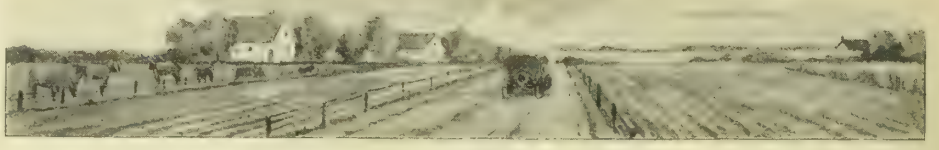
Business of Farming



Fertilizers Truck Crops

ALL PLANTS need 13 or 14 different plant foods or constituents. Most soils are well supplied with all but three or four of them. The ones that are likely to be scarce are lime, ammonia (sometimes spoken of as nitrogen), phosphoric acid and potash. Lime is needed to sweeten the soil and make it sanitary so the soil life can work and prepare available food for the crops. When the soil is sour, 2 tons to the acre of finely ground limestone or its equivalent in marl, burnt, hydrated or air-slaked lime should be applied after the seed bed is plowed and just before the last harrowing or disking.

Ammonia gives the young plants a quick start and produces plant growth and tender crisp plants. It is especially needed for celery, leaf lettuce and similar plants.

Phosphoric acid produces fruit, improves the quality, hastens maturity and aids in filling the fruit. Crops like tomatoes, head lettuce and sweet corn require relatively large amounts of available phosphoric acid.

Potash produces strong stalks, makes plump fruit and grain and aids plants to resist diseases. Crops like beets, potatoes and cabbage want large supplies of potash.

WHAT ARE COMMERCIAL FERTILIZERS?

Commercial fertilizers are made from materials like bone, blood, nitrate of soda, phosphate rock, potash salts etc. They contain ammonia, phosphoric acid and potash, the three plantfoods required in large amounts by all crops. These plantfoods are also in the soil (though not always available) and in manure. Where large crops of vegetables are grown there is not enough available plant food in the soil to furnish the crops with all they need. As manure is becoming scarcer, many vegetable growers are wondering if they can afford to use commercial fertilizers. They can if they do a little studying and find out the kind they should buy and how it should be applied. Thousands of vegetable growers are now using commercial fertilizers to supplement their supply of manure, thereby increasing the crispness of plants like celery and lettuce, improving the keeping qualities of others and getting their crops on the market from one to two weeks earlier than they did before they used fertilizers.

THE KIND OF FERTILIZER TO BUY.

A good truck fertilizer is one analyzing 2 to 5 per cent. available ammonia, 8 to 12 per cent. available phosphoric acid and as much potash as can be secured under present conditions. Formerly from 3 to 8 per cent. of potash was demanded in a suitable truck fertilizer. However, if you can not secure this much, buy and use a fertilizer containing as much as you can get. Since potash has been scarce many growers have been getting very good results with a small amount of potash in the fertilizer.

On all crops that produce fruit or grain such as tomatoes and sweet corn, use a fertilizer analyzing especially high in phosphoric acid. Crops like celery, leaf lettuce and spinach need an abundance of ammonia. Such crops as beets and potatoes need a large proportion of potash.

HOW TO APPLY FERTILIZERS.

On all crops sown broadcast apply the fertilizer while fitting the seed bed and work it well into the soil. The fertilizer attachment on the wheat drill or a broadcast lime and fertilizer distributor offers the best means of applying the fertilizer. However, on small plots it may be sown by hand. Work the fertilizer well through the top soil but don't get it too deep.

ON ROWED CROPS.

All the fertilizer for all rowed crops may be applied broadcast and worked into the soil as indicated above. However, since most truck crops are planted early before the ground has warmed up, better results will be secured by applying but two-thirds of the fertilizer broadcast before planting and the remainder along the row when planting. The small amount in the row helps the plants when starting and hurries them along. For most vegetables amounts up to 300 pounds can be applied along the rows through the fertilizer attachment of the planter with safety when planting seeds or sets. Amounts up to 600 pounds can be used in the row for potatoes.

TOP OR SIDE DRESSING.

Most vegetables should have one or more applications during the first cultivations. This is especially true if the soil is exceptionally loose or underlaid with sand or gravel. Certain makes of cultivators have suitable fertilizer attachments for making such applications. The fertilizer may be supplied by hand along the row or around the hills. A fertilizer bugle may also be used. This is a tin or galvanized funnel from 4 to 6 inches across the mouth and with a spout 24 to 36 inches long. Tie the funnel into a corner of the sack, carry the sack on the shoulder and guide the funnel spout along the row as desired. A common 4 to 6-inch funnel with a piece of garden hose tied on the spout will answer the purpose very well.

TRANSPLANTED CROPS.

There is no tool so useful as the fertilizer attachment on the potato planter for applying fertilizers to crops set by hand such as cabbage, tomatoes, etc. It opens

the furrow, marks the rows scatters the fertilizer evenly and works it well through the soil. If you don't have such a planter apply the fertilizer as already indicated for other crops. The secret of success in applying fertilizers to any crop is to mix it well through the soil and place it where the tender plant roots can get it. For instance, when fertilizers are scattered in the furrow before dropping the potato, a narrow cultivator or other plow should be run along the furrow to mix the fertilizer through the soil. When this is done bigger crops are secured and fertilizers never hurt the plants.

AMOUNTS TO APPLY.

A strong, well fed horse can do more work than a thin, poorly fed one. The same thing is true of crops. Generous applications of fertilizer means strong, healthy, well-fed plants hence an early crop, better prices and a better satisfied gardener at the end of the season. For practically all truck crops, I would not use less than 400 pounds to the acre. Some of our most successful growers use from a ton and a half with profit.

—*J. W. Henceroth.*

A Farm Ice Cream Trade.

A farmer in New York State, engaged in the dairy business, did not find his returns to be satisfactory, and after looking around, decided to spend $300 in fixing up a plant for handling an ice cream trade with his nearby town.

His equipment consists of a 2½ horsepower gasoline engine, two five-gallon freezers and 30 five-gallon packers. He commenced business the first of last July and during the remainder of the summer and early fall months made 700 gallons.

He put a wagon on the road and often sold to farmers in the fields. Three trips were made per week. The rural phone brought many orders for socials, church parties and other rural gatherings.

Although it is not easy money by any means, attention to details, goods on a strictly quality basis and courtesy, has made his business go. A motor truck will be used this year in his business.

Tapping His Maple Orchard.

Clement Guay, of Lacolle, Que., had a patch of rough land on his farm on which he set out something like one-hundred hard rock maples about thirty-five years ago, and the trunks of these trees have now attained an average diameter of fifteen inches. These trees being planted about twenty-five or thirty feet apart, have developed very large crowns, and should be big sap producers. Mr. Guay is intending tapping these trees this year for the first time. This record would go to show that planted maple trees could safely be tapped after twenty-five years growth.

VERY LIKELY

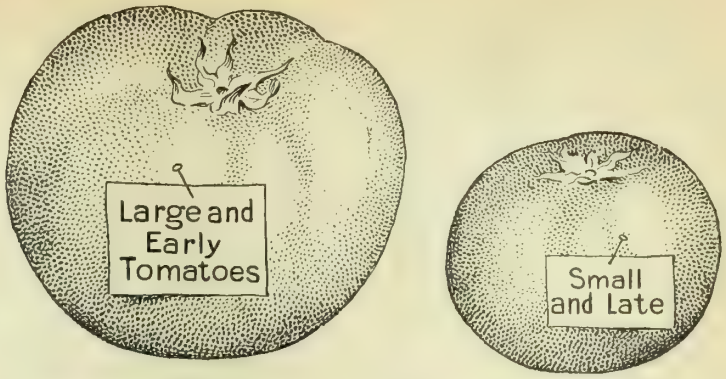
Every small town has its prominent citizen who appears before the city fathers and "talks right out in meetin'."

Not every town, however, has among its councillors a member with sufficient moral backbone to answer back, as did John Hammer, of a western town whose name is of no consequence.

Concluding his arraignment, the prominent citizen hurled this thunderbolt at the board:

"I'd sooner be put up as a candidate for a lunatic asylum than put up for the town council."

"Well, you'd stand a better chance of getting in," dryly responded John Hammer.



Bigger Yields, Better Crops and Increased Profits

"The big reason for the growth in the consumption of fertilizers lies in the fact that commercial fertilizers increase profits wherever properly used," says a government bulletin. If your land is losing its available fertility you can easily build it up and increase your profits by using

Harab-Davies FERTILIZERS

They will give your crops a good start, stimulate growth and increase the yields. Even if you are getting good results from your lands, Harab-Davies fertilizers will produce still bigger and better crops. They are prepared from blood, bones, etc., in just the right proportions to supply the plant food your soil lacks. Let our experts help you select the correct fertilizer for your own particular needs. Write for our free fertilizer booklet and bulletins.

Ontario Fertilizers, Limited

WEST TORONTO, ONTARIO

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Raise the Chick
One cent a chick is all it costs for three weeks' feeding with
Pratts Baby Chick Food
A complete balanced ration, ensuring healthy, rapid growth and vigorous chicks
Sold on a *Money Back Guarantee.*
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At your dealer's.

Write for FREE Baby Chick Book.
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A LIVING FROM POULTRY

Is the title of a little booklet I wish to send you free.

Fourteen years of careful selecting, trapnesting and pedigreeing, has put our White Wyandottes and Single Comb White Leghorns amongst the highest egg producers in Canada to-day.

Write to-day for 1917 price list on Hatching eggs and Baby chicks. Some nice cockerels left, bred from hens with records from 200 to 260 eggs in their Pullet year. Prices from $3.00 to $10.00 each.

W. H. FISHER
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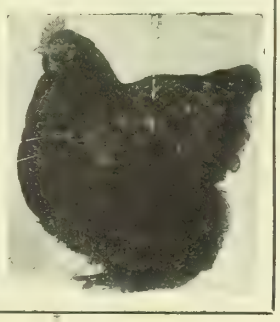
Black Orpington Hens

England's Best

Make poultry pay; breed the best stock. For England's best Blue, Black, Buff or White Orpingtons, send to Harold Corrie. Prices reasonable. Special facilities for exportation. Satisfaction guaranteed. Write for full particulars.



HAROLD CORRIE
Quobleigh, Eastleigh, Hants. ENGLAND
Cables, Corrie, Fair Oak, England.

In The Poultry Yard

The Catching Cackle

BY DAN DALY.

Now that the snows are over, let's to it on eggs!

The baby chick is chirping into prominence.

Will railways haul chicks if they can't haul coal?

Some big chicken farms issue handsome catalogues.

Some men who got no eggs in February, want to know why?

Do not blame any one feature for it. Make all things right.

To operate a 300-egg incubator for 3 weeks will cost 75 cents for gas, oil or electricity and ten minutes of your time per day.

It would take 20 hens to do the work of a 300-egg machine. Thrift says that these 20 hens would lay 400 eggs in that time.

Prof. Blair, of Kentville, N.S., says pure-bred poultry rearing makes a good addition to farm revenues.

Send us your experience with a small flock of hens? Do they pay?

Who ever heard of a hen laying two eggs a day? Do you believe it?

Drafts in a hen roost are sure to make colds, roup, etc.

Bran contains much mineral matter and should be in all chicken diets.

Where Clean Business Pays

The Massachusetts Poultry Society has adopted, for the use of its members, an official poultry products guarantee seal for both eggs and dressed poultry for the market.

The use of the seal is limited to those members of the society who will agree to the following rules:—

(1) That poultry and eggs shall be produced under clean and sanitary conditions.

(2) The poultry and killing houses shall be open at all reasonable times to inspection by members of the executive committee of said association.

(3) Eggs shall be gathered at least once a day, and when shipped or sold shall be not more than seven days old.

(4) No unwholesome food shall be fed to the poultry.

(5) Shells shall be clean in every case.

(6) No eggs which have been in an incubator shall be shipped or sold under said seal.

(7) Eggs shall weigh not less than 24 ounces to the dozen.

(9) Dressed poultry shall be fresh killed.

(9) No diseased poultry shall be killed and sold for table use.

(10) The right to use said seal is forfeited whenever this agreement is in any respect violated, the member being held to reimburse said association for all payments and expenses made and incurred by it (after investigation and satisfactory proof) by reason and on account of inferior quality of poultry products shipped or sold under said seal.

Learn What the Market Wants

In an address at the annual meeting of the agricultural societies, Miss Mary Yates mentioned that in the year 1915 $10,000,000 was spent in importing delicacies to Canada. It seemed a strong argument for producing more of these delicacies at home and not the least to be considered was choice poultry and eggs. She also referred to a statement recently published to the effect that one farmer had listed in his yearly profits,

From 180 brown leghorn hens..	$500
From 6 milch cows	500

The explanation of course for deriving as much profit from 180 hens as from 6 milch cows was that $200 of the poultry income had come from eggs sold for hatching. This would not have been possible if the chickens had not been pure bred. Fair boards could help to increase farm returns by encouraging the exhibition of pure bred birds.

Miss Yates emphasized the importance of studying the demands of the market. Large, coarse birds are not wanted. An excellent tender-fleshed variety, the New Ontario, is just being perfected through the work of Prof. Graham, of the O.A.C., in combining the succulent tender-fleshed qualities with the hardiness of breeds fitted to endure the Ontario climate.

Pheasant Raising.

A pheasantry may be started with mature birds or with eggs, the latter to be hatched by barnyard fowls. If eggs are to be tried, they should be ordered in January or February, to be delivered in April or May. They should be placed under the hen as soon as possible.

A pen should be provided and supplied with food and water. On the arrival of the birds the crate should be placed in the pen, an opening should be made in the crate (preferably in the evening) sufficient to allow the birds to escape one at a time, and the attendant should with-

draw, leaving the birds to find their way out alone. For the first few days they should be disturbed as little as possible.

The prices of pheasants vary with the season. They are lowest at the close of the breeding season and increase gradually until the next. They vary also according to the dealer; but so many things are to be considered, such as purity of stock, freedom from disease, care in shipment, and other details, that the lowest prices do not always mean the cheapest birds. English ringneck pheasants are least expensive—about $5 a pair. English pheasants and ringnecks (the pure-blooded birds) cost a little more.

Any well-drained ground is suitable for pheasant pens, but a gentle slope of sandy loam, comparatively cool in midsummer, furnishes ideal conditions. Clay is the poorest soil for the purpose, as it is likely to foster diseases. The pens should be provided with plenty of both sunshine and shade. They should be constructed of chicken wire, like ordinary poultry runs. Each pen should cover at least 100 square feet, more if possible; contracted quarters induce disease and afford their timid occupants too little protection from alarms. The pen should be from 6 to 8 feet high, and should be inclosed above with wire. If the pheasants are likely to be disturbed much, cord netting should be stretched 6 inches or more below the top wire, to prevent the birds from injuring themselves by flying violently against the top, as they are apt to do when frightened. The pens and sheds should be kept scrupulously clean. There is no more fruitful source of disease among pheasants than uncleanliness.

Pheasants are small feeders, and there is greater danger of overfeeding than underfeeding. Overfeeding is productive of disease. Pheasants are omnivorous, and as variety is advantageous, almost any edible substance may be fed—grain of all kinds, finely chopped meat, cooked cereals, table scraps, boiled potatoes, boiled rice, apples, turnips, and finely chopped green food, as lettuce, grass, cabbage, onion tops, and chickweed. Green food is important and should be constantly supplied, even if it must be raised under glass. All green food must be chopped fine, as otherwise the birds are likely to become crop bound. Ground bone is excellent. Seeds of various weeds, when obtainable, may be furnished; hay seed also is good.

Many species of pheasants are able to withstand cold. Even when the mercury is below zero, they generally prefer to roost in the open runs, and they seem to be little discommoded by snow. Nevertheless, it is well to afford them some shelter from severe storms and from excessive dampness; and some species normally inhabiting warm regions require housing in cold weather. Scrupulous cleanliness must be maintained throughout the winter, as at other seasons, and dust baths must be provided at all times. It is necessary to remember also that grit or fine gravel is essential to the proper digestion of food by pheasants. In winter it is not usually necessary to separate the cocks from each other or from the hens.

Feeding Laying Ducks

Ducks in laying time do well on the following mixture:—

Three parts cornmeal, 3 parts wheat bran, 2 parts green stuff, 1 part beef scrap, 1 part No. 2 flour; salt lightly, mix

The Oldest Red Yards West of New York

SPRAGUE'S REDS

I have devoted my entire time to the poultry business since 1882—35 years. I have bred Rhode Island Reds longer than any other breeder west of New York. My stock is the best money, experience and careful breeding can produce. My prices for eggs and chickens are less than half what others charge for same quality. My FREE Red Book tells what I do and how I do it. Satisfaction or money back.

Canadian Trade a Specialty

P. H. SPRAGUE (Near Chicago) Maywood, Illinois, U.S.A.

A FORTUNE IN POULTRY

Our 264 Egg Kind

Increase your egg yield by purchasing a Cockerel, setting of eggs or brood of Baby Chicks of our high record Rocks, Wyandottes, Leghorns or Reds. 1917 Mating List containing 65 photos of stock, buildings. Feed and tonic formulas free.

R. L. Guild, Box 56, Rockwood, Ont.

Bred for Business—White Wyandottes

Our birds are excellent egg yielders from Pedigreed, Hardy Stock. They have to be, as our business success depends on it. Have been shipping eggs during the High-Price Season—lots of them. From our Breeding Pens will have over and above our own incubator requirements a limited number of hatchings which we offer at

$1.25 per setting. $7.00 per 100.

THREE PINES FARM, Jarvis, Ontario.
A. C. Pulver.

This new book has many colored plates of fowls true to life. It tells all about chickens, their prices, their care, diseases and remedies. All about INCUBATORS, their prices and their operation. All about poultry houses and how to build them. It's an encyclopedia of chickendom. You need it. ONLY 15c.

C. C. SHOEMAKER
Box 1126, Freeport, Ill.

White Wyandottes, Martin's Regal Strain—Cockerels $3 to $10, utility and exhibition quality. Yearling hens and pullets, $2 to $5, according to quality; all grand laying stock. Hatching eggs from selected pens, $2 for 15; $3.75 for 30; $5.25 for 45; $6.50 for 60. Utility pens, $1.25 for 15, or $8.00 per 100. Book orders now. Satisfaction guaranteed.

A. HOBBES, Care Northern Crown Bank
Port Dover, Ontario

BABY CHICKS WANTED

Send best prices for White Leghorn Chicks delivered in good shape to Toronto. Must be from high laying strain in quotations of 100.

F. C. MACKENZIE
75 Hampton Avenue - Toronto

ELMGROVE FARM

Pure bred Bronze Turkeys, Rouen and Pekin Ducks, and several breeds of Poultry. Write for prices and catalogue.

J. H. Rutherford
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130-Egg Incubator and Brooder Both For **$14.50**

FREIGHT AND DUTY PAID

If ordered together we send both machines for only $14.50 and we pay all freight and duty charges to any R. R. station in Canada. We have branch warehouses in Winnipeg, Man. and Toronto, Ont. Orders shipped from nearest warehouse to your R. R. station. Hot water, double walls, dead-air space between, double glass doors, copper tanks and boilers, self-regulating. Nursery under egg tray. Especially adapted to Canadian climate. Incubator and Brooder shipped complete with thermometers, lamps, egg testers—ready to use when you get them. Ten year guarantee—30 days trial. Incubators finished in natural colors showing the high grade California Redwood lumber used—not painted to cover inferior material. If you will compare our machines with others, we feel sure of your order. Don't buy until you do this—you'll save money—it pays to investigate before you buy. Remember our price of $14.50 is for **both** Incubator and Brooder and covers freight and duty charges. Send for FREE catalog today, or send in your order and save time.

Write us today. Don't delay. WISCONSIN INCUBATOR CO., Box 206, Racine, Wis., U. S. A.

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Of Practical Value to All Poultry Raisers

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FOR SALE—S. C. White Leghorn Eggs

$1.00 per 13, $5.00 per hundred. Bred to lay. O. A. C. Strain Eggs, guaranteed ninety per cent. fertile. S. C. White Leghorn Pullets $1.50 each. Cockerels $1.50 each. Special Price on large quantities. All orders given prompt attention. Send your order early as I have only a limited number of Cockerels. Apply

H. B. Cockburn, R. R. No. 1, Courtland Ont.

"PAY YOURSELF FIRST"

THAT'S RIGHT — every day you work our plan, your pay is given you. "Pay yourself first," that's the idea of our representative plan. When you devote ten hours daily acting as our representative—your pay is sure and certain.

We need a hustling representative right in your district. A young man capable of producing good business, preferably one with salesmanship experience. The position will pay big money to one with enthusiasm, energy and ability. Do you know, or are you such a man?

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Does this interest you, if so write us TO-DAY and we will tell you all about it.

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with water and feed twice a day. Give a grass run if possible; if not give them boiled turnips mixed with cut clover hay.

Incubator Advice.

The poultry business has been on an exceptionally good basis ever since the war began. It has made such headway in Canada because of the export trade in eggs in Great Britain that there is no doubt but that Great Britain and the Allies after the war will take all the egg products that Canada can export. Besides this the home consumption of poultry and eggs is not satisfied. We could consume a great deal more than we are at present doing. Every part of our Canada is calling for such food supplies. The dear feed question has sent a lot of the poultry to the market and many farmers throughout the country will not have the stock in the spring to keep up their egg supplies that they had last year. The hatching of chickens by the incubator next year will largely be revived in those places where it has formerly been thrown aside. This will be due largely to the increased efficiency of the machine, and a few rules in connection with its guidance will be a benefit to the beginner.

There are several distinct types of incubators on the market. The last Canadian National Exhibition at Toronto had on exhibit several types of incubators and also one or two new devices for hatching chickens by electric heat.

The three most necessary requirements for good incubators are, absolutely reliable thermostats and system of heat regulation and distribution, which will make it possible to regulate the temperature of the egg chamber. A perfectly constructed machine with no defect whatever and a perfect system of ventilation.

Mr. Lewis N. Clark, the successful poultry proprietor of Port Hope, Ont., thinks that there are more eggs ruined by neglecting proper heating than by any other one fault in running an incubator. They must be turned he says, twice a day and turned carefully. Failure to turn them often results in germs sticking to the shell of the egg. Careless turning, particularly during the first few days, breaks the tiny threads, causing the germ to die. The trays should be taken out from the machine, the doors shut tight and the eggs carefully turned.

On the morning of the eighth day up to and including the evening of the eighteenth day, they should be left out of the incubator once a day until they feel cool but not stone cold. Be careful that the entire tray rests on the top of the incubator or the part overhanging will cool more quickly than the rest.

The best possible location for an incubator is in a well-ventilated cellar. Be sure that no direct sunlight or draught strikes the machine. If coal oil lamps are used as heaters the exhaust pipes should all be connected with the chimney to carry their bad fumes out of the cellar. About 55 degrees is about the right temperature for the cellar. A flat saucer at the bottom of the incubator kept filled with water at all times will be of advantage in keeping the air moist. If the cellar has a cement floor it should be thoroughly wet by sprinkling with water daily. On the evening of the eighteenth day close the door of the incubator and do not open it again until the hatch is over. Allow the chicks to remain in the incubator 24 or 36 hours after hatching.—M.C.D.

Sheep Pay Algoma Mortgages

One Can't Always go by What the Neighbors Say. The Man Behind Counts for Most

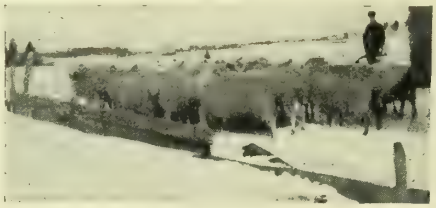
I BOUGHT a farm of 80 acres in Algoma some 16 years ago. It was encumbered with a heavy mortgage. I had no money at the time and only my day's wage to depend upon. I undertook what a good many farmers told me was an impossible task, as there were very poor buildings on the place and not a rod of wire fence. The fences were the old rail snake variety, as we called them.

About 30 acres was partly cleared, but a man could not drive a team and wagon between the stumps. It was only possible to run a mower on 15 acres of it.

To-day I have one of the best equipped farms in the district. The debt is all cleared off and I have purchased an adjoining 80 acres which is also clear of debt. The place now is blessed with 1,000 rods of woven wire fencing and about 70 acres of the land is under cultivation.

A new stock barn 34 feet x 50 feet with stabling underneath finished in cement, and all equipped with Beatty stalls, stanchions, and litter carriers, gives one the consolation of knowing what comfort is and what owing no man anything means. But this is all largely due to my flock of sheep. As I had no capital to begin with, I soon recognized that sheep were going to be my strong cards.

I bought a few good grade Leicester ewes. They multiplied fast so that I soon had a flock of 30 good ones. This was all I could care for and accommodate nicely on my farm. I made sure to always use a pure bred ram as I regarded that as a beginner's first and best step. I keep the ram for two years and then get another one. I cull out six of my ewes each year and keep six of my best ewe lambs. This system keeps my flock under six years of age. These are hardier and stand the winter better than old ewes. If I see any sign of catarrh, or sniffles as some call it, I send them to the block.



Sheep in Algoma.

RETURNS FROM 30 SHEEP IN ALGOMA.

Wool, 270 lbs. at 30 cents	$ 81.00
Lambs, 45 average 90 lbs., at 9c.	396.45
Total returns	$477.45

I keep one mow in my barn for my sheep, with a hay loft over head. The siding is one-ply lumber with cracks battened. The sheep have free access to the yard when the cattle and horses are inside. A mixture of salt and sulphur is kept in a box where the sheep can get it as they desire. Their feed consists of red and alsike clover, fed morning and evening, all they will eat up clean. The feed is taken out doors if the weather is clear. I never fed five bushels of grain to my sheep in my life and I have yet to find a healthier and thriftier flocks. The lamb yield has averaged between 130 and 150 per cent. each season and I have lambs dropped from April 5th to the 1st of May as the nights are getting warm then and I have more time to attend to them. In 1915 I lost only one lamb, and last spring only two. The April lambs were sold in October and weighed 125 lbs. live weight. I let them run with the ewes on the clover until they get used to eating it and then I wean them, taking the ewes to poorer pasture to evade any udder troubles. By carefulness in this way, the danger from caked udders is very slight.

The wool crop averages about 9 lbs. each, which at present prices more than pays for the wintering of my flock.

In the summer, the bushland is fenced in and the sheep have the run of this. The shade there protects them from the troublesome gad fly. I never let them lie out in the fall's cold rains, as a sheep can stand any amount of cold, but they must be dry.

I thoroughly believe in sheep. They will pay off the mortgage, build up the farm as no other stock will. They turn weeds into money and are truly named the golden hoof. I carry 30 head of cattle on the farm as well.—G. McD.

Sheep Protection in Ontario.

Chiefly at the suggestion of the sheep-breeders the following protection is given to sheepmen.

Any person may kill any dog which he sees pursuing, worrying, or wounding any sheep.

Any person may kill any dog which he finds straying between sunset and sunrise on any farm where sheep are kept, provided the dog does not belong to a near neighbor and is not likely to pursue, worry, wound or terrify the sheep.

The owner of the dog doing the damage is liable for the full amount of the damage to the sheep.

An owner of a dog, to whom notice is given of any injury done by his dog, shall within 48 hours thereafter cause such dog to be killed. The penalty for not doing so is $2.50, and $1.25 every 48 hours the dog lives.

Damages to the full value of the sheep can be collected.

Jerseys and Exercise.

"I believe in lots of light in my Jersey stables, and in exercising the herd outdoors daily during the winter, to maintain health and productiveness," says J. B. Cowieson, of York County, Ontario.

"I have a flowing well on my farm, and the cows have to go a few rods from the stable to get water and the exercise on these bright winter days is decidedly invigorating."

Shall Fruit Growers Dust?

Continued from page 10.

Prof. Cæsar, of the O.A.C., Guelph, took up at the same convention the work that has been done in 1916, and like the Cornell professor gave no definite opinions either way. Both presented facts and allowed people to make their own deductions.

In his work on the Grimsby orchard he had singularly good results with dusts showing upwards of 90% clean fruit. The first spray was put on just as the buds were ready to burst; the second 3 days after blossoms fell. In liquid sprays he used as high as 9 and 12 gallons per tree.

The result of the tests showed that the foliage was infinitely superior under the dusting.

In the matter of worm control, while unsprayed fruit showed only 40% of fruit clean, with dust there was 90 per cent. clean, and with liquid 93 per cent. clean. It is clear that worm control is perfect under the dust method.

As for scab, 97% of the trees were free from scab under dust and 99% under liquid.

Prof. Cæsar has such varieties as Spy, Greening, Gravenstein, Baldwin, Yellow Harvest, Red Astrachan Golden Russet and Fall Pippin on his Paris orchard.

Out of 1,500 apples on a Yellow Harvest tree, a variety particularly susceptible to scab, only 3 or 4 were affected with scab.

Several men in Ontario used dust in 1916. One-half amounted to nothing because they used it at the wrong time. The dust did not hang on so well as the liquid spray.

On small trees the cost was double that of the liquid spray, but on apple trees about the same. This was due probably to machine and wrong methods in use of dust.

In keeping off brown rot on sweet cherries, the dust method was a decided benefit. Sulphur without the poison can often be applied and the costs cut down.

Plums dusted 3 times were nearly all cean, and grapes dusted 5 times were clean.

Sunday on the Farm

As our Canadian civilization becomes more complex there is increasing need of guarding well the institution of the Sabbath. For one thing it is a mistake to allow the day to degenerate into a day of mere visiting for along with the visiting there is almost sure to go the woman-killing practice of feasting. The old ideal of reducing Sunday labor to the amount demanded by necessity and mercy has a great deal to commend it. Nor is there much to be said in favor of "cooking up" a special supply of eatables for Sunday, as this practice involves a double amount of labor on Saturday. The quiet Sunday with its church-going and its reading of the books and other literature that the nature of the day suggests is surely the ideal. Sunday is not primarily a day of rest. It is a day for public and private worship, and it is best passed when so observed. But it should be at least a day of quiet in which there is a cessation from the recreations and employments which are properly engaged in on other days.

FARMERS NOTICE

We have for sale a large quantity of high grade, O.A.C. No. 72 Oats, and O.A.C. No. 21 Barley, grown from carefully graded, selected seed. Guaranteed true variety, and free from all noxious weed seeds. No. 1 Red Clover Seed.

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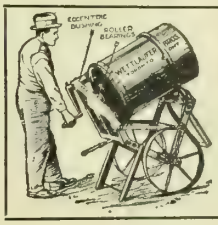

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This season, 1917, we want you to consider this method of protecting your orchards—a method that will control all insect pests and fungous diseases at just three-quarters of your last year's cost.

Think of it. Read what Mr. E. D. Smith, of Winona, says about the

Niagara Dusting Method

"We are liking it well enough to try it again next year. One thorough dusting of the sulphur for an orchard was cheaper than one spraying of Bordeaux, counting the labor and all the material cost us."

Senator Smith controls one of the largest nurseries and fruit farms in Canada. He does not make rash statements.

Many other prominent orchardists experienced most gratifying results in 1916

40 acres a day can be covered under average conditions. Two men and one team do in three hours, the work that three men and one team would take three days to do by liquid sprays. Time is vital in early spraying.

No water to haul. Enough material for one-half day's work carried on the wagon.

Weight of equipment less than 1,000 lbs. Can be used on soggy ground or in wet seasons.

Equally efficient for highest trees or lowest plants. Averages 25% less cost than liquid spraying.

Does not burn foliage, as materials are insoluble in water.

Many problems that liquid spraying could not overcome, are solved by dusting. Individual advice given on application.

Send for Free Book on Dusting

It contains information invaluable to all orchardists. The reputation of the Niagara Brand Spray Co. is too valuable, and has cost us too much time and money to attain, to permit us to take the risk of recommending anything that is not thoroughly worthy and proven.

FILL IN THE COUPON TO-DAY

The Niagara Brand Spray Co., Ltd.

Burlington, Ontario

Date....

The Niagara Brand Spray Co., Ltd., Burlington, Ont.

Gentlemen:
Please send me free book on Niagara Dusting Method as outlined above.
The size of my orchard is .....

Name.....

Address.....

God's Green Country

Continued from page 49.

"And the lonesomeness of it! A girl who had lived in town would find it maddening."

"But women like Mrs. Burns don't find it lonely. They have grown up with country ideas, and they have a great deal in themselves—they can make their own entertainment; then they have a live interest in their homes and families, and the men in this community are generally a pretty fine lot."

"Then why don't they make things different for their wives?"

"Naturally that's the first question a person would ask. Some of them don't seem to care much, I'll admit. A lot of them, though, are ambitious to have the very best things for their homes, but there are two hard rocks in the way. In the first place most farms don't pay well enough to install big improvements and not many farmers know how to put in a low-cost equipment. Practically every farm that pays its way at all, could afford the essential conveniences, and with labor as it is now, it looks as though power of some kind would soon become an economic necessity. Then, we may see lots of improvements. There's enough water-power going to waste in this county to supply every farm with electricity, but I guess we farmers will always have to fight the sin of conservatism."

Marjorie settled back in her corner of the seat. She was ready to drop the subject for something more interesting.

"And yet," she said, laughing at him through half closed eyes, "you want to be a farmer. Your poor wife!"

Billy looked hard at the road ahead. "It wouldn't be a very alluring prospect, would it?" he agreed.

For several nights after this the light burned late in the Agricultural Office, and curious sentinels of neighborhood affairs speculated on reasons for the strange behaviour of "the agricultural fellow" during the day. On several occasions he had been seen patrolling the creeks which wound like threads of a spider's web, through the hollows of the rolling land. He always carried an armful of boards and a saw and appeared to be measuring the width of the streams.

"Mebby surveyin' for an irrigatin' system" one of the village store roosters suggested.

When Billy had satisfied himself as to the resources at hand, and his search for technical data had about exhausted the patience of the engineers within reach, he succeeded in getting some twenty farmers to meet in the agricultural office one evening to discuss harnessing and putting to work the water-power in the district. He pointed out how the sight of a dozen young horses running wild in his pastures would impress the average farmer as an awful example of horse-power going to waste, how he could spend a good deal of time and effort and money if necessary trying to capture a horse-power or two for his own use; while there may be five, ten or twenty horse-power running to waste in the brook that waters his meadows, but he is not inspired with any desire to possess and harness that.

He explained his strange conduct of the past two weeks when he had followed the streams of the district for miles measuring their flow with a weir, and he gave the results of his prospecting. He told them that every four thousand gallons of water falling one foot in one minute, or every four hundred gallons falling ten feet in one minute meant the power of one horse going to waste; that one water horse-power would furnish light for the average farm; that five water horse-power would furnish light and power for both the barn and the house. He estimated that the cost of installing a five water horse-power would not exceed the cost of one young horse, and that it would have paid for itself in saving wages, by the time the horse was ready to die.

He didn't expect the men to be carried away by his enthusiasm, and they weren't. A power system of any kind was a novelty in the section. An itinerant gasoline engine made its rounds every winter to cut the year's wood, but no one had ventured to adapt even gasoline to any farm work. Naturally, they were skeptical of the energy stored up in their quiet little creeks. Billy knew that the only hope of converting them rested in demonstrating just what a power system could be made to do, and beyond the pine woods, neighboring with the farm he had hoped to own, was a place where a stream from the hills ran everything that had formerly turned with a crank. He could arrange an excursion to the place. He could have the engineer who had gone over the ground here come out and explain just how the same principle could be carried out at home. He could get manufacturers to bring special pieces of equipment and demonstrate their uses. And in order that the scheme might not miss its main objective—to show Miss Evison that a farm home could be made a livable place—he would arrange with the owner and his wife to let him put on a demonstration of a complete home equipment. In the last undertaking his zeal was considerably in excess of his ability to handle the case. He wrote to ask Ruth Macdonald if she would come and help him.

(To be continued.)

Rural Mail

Continued from page 56.

Water Power

Inquirer, Ontario.—I would like to get *a little information through your paper on an engineering question. I have a creek on my place that I would like to put a dam in and make electric power for lighting and power purposes. I could have an average head of water of three feet on a half acre surface, and an outlet of a four-inch pipe and still have the same head of water and keep the same pressure up. Could you tell me what power I could get from that body of water and what kind of wheel would be the best and where I could obtain it, with the approximate cost?*

Answer. — Estimating the flow mentioned in your inquiry at 20 cubic feet of water per minute, and making use of the head of three feet available, it will be possible for you to develop approximately ⅛ h.p. continually from your water power. To develop this power will require the use of a wheel of the undershot type, inasmuch as the amount of fall is too low for the use of an overshot wheel. If this fall can be increased so that one of the latter wheels can be installed, a greater amount of power can be developed.. The undershot wheel for this location should be 8 ft. diameter by 1 ft. in width and complete with forged steel shaft and bearing boxes; special regulating gate and chute to carry the water properly into the buckets of wheel; also spur master wheel and pinion, with short jackshaft and necessary bearings for same, would cost $255 f.o.b. at Fitz Water Wheel Company's factory, Hanover, Pa.

The jackshaft mentioned above will have a speed of 90 revolutions per minute, and from it the dynamo or other machinery can be driven by means of a pulley and belt.—W.H.D.

Forage Crops

E.L.C., Ontario. — I understand that good results were had by the Ontario Agricultural College on cabbage, Kale, and rape as forage crops. Can you tell how these would be sown together?

Answer. — In the average of fifteen years' experiments at the College, we obtained the following average yields per acre per annum of the crops referred to in your letter: Sutton's Earliest Drumhead Cabbage, 23.7 tons; Thousand Headed Kale, 20.8 tons; Dwarf Essex Rape, 19.2 tons.

It will be seen that the cabbage surpassed the rape by over four tons of green crop per acre. These crops are all relished by farm stock and are very fattening. They are particularly suitable for sheep and lambs. They also give good results with hogs and growing cattle.

These crops do particularly well on soil containing a considerable amount of vegetable matter. They also do well on an average clay loam, but do not, as a rule, prove as successful on a light sandy soil. We usually sow the crop sometime in June, but it may be sown quite satisfactorily in May. These crops resemble turnips in the fact that they thrive best in the cool weather of the autumn. When sown in rows twenty-eight or thirty inches apart, from one to two pounds of seed per acre is quite sufficient. If sown broadcast, however, four or five pounds of seed per acre are generally sown and the yields are lighter than when sown in the rows and cultivated.

We have not grown these crops in mixtures and I do not see that there would be very much advantage. The rape grows much taller than the cabbage and is quite smothering in its effect and it is quite probable that each would be somewhat detrimental to the other.—C.A.Z.

Goat Farming

J.S.L., British Columbia.—Where can I get literature on the subject of goat farming?

Answer.—Write to the Sheep and Goat Division Department of Agriculture, Ottawa.

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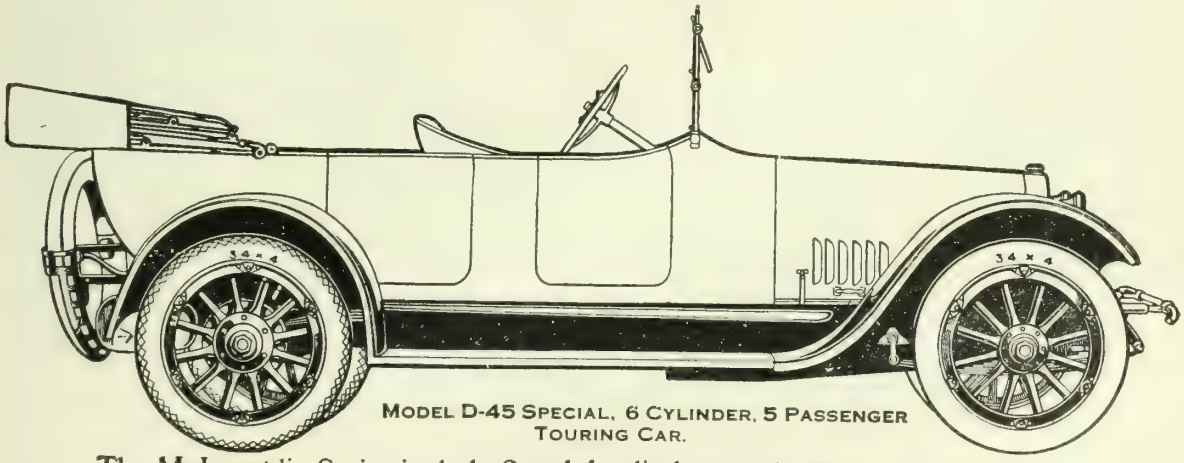

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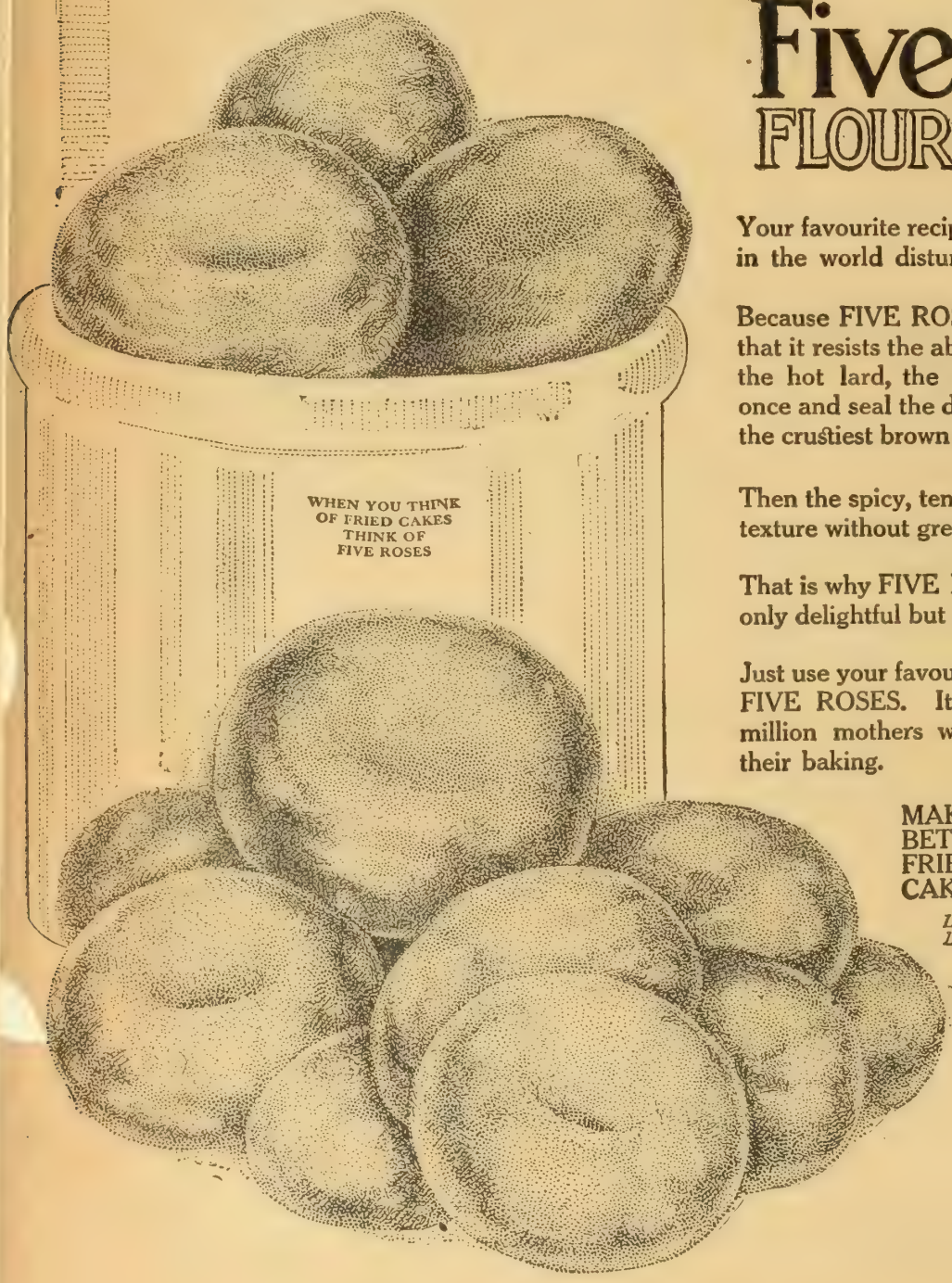

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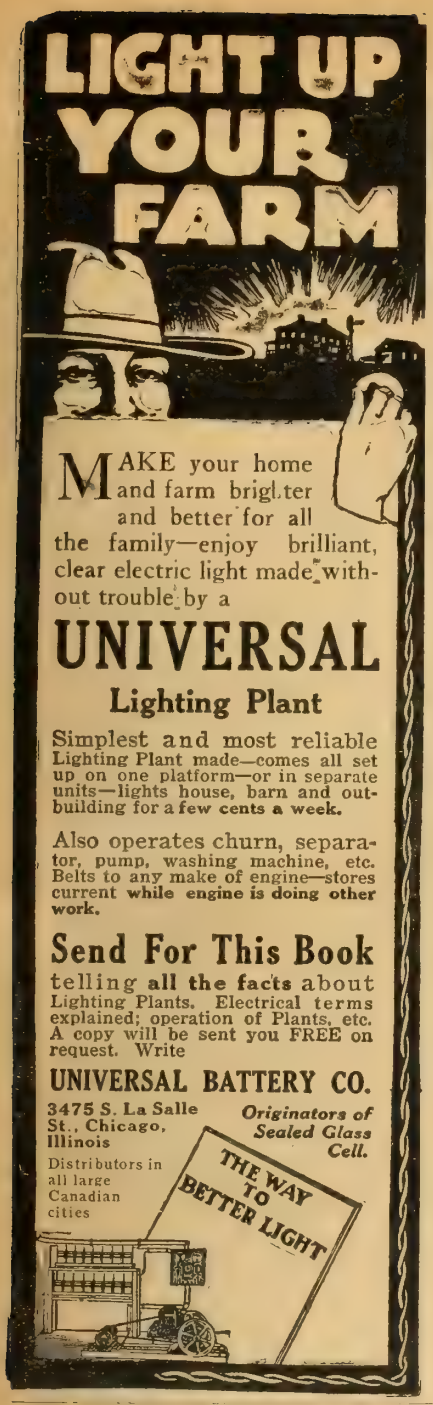

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God's Green Country 14
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What Happened to an Old Farm... 54
—*E. L. Vincent.*

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The FARMER'S MAGAZINE

Volume X TORONTO, APRIL, 1917 Number 6

Ranching Outlook in Ontario:

By J. H. McARTHUR

WHEN we speak of ranching in Canada we at once think of the Western Provinces of our Dominion. Alberta and Saskatchewan have been regarded as the home of the Canadian rancher. It may be a surprise to many citizens of our Dominion to learn that in Ontario—and in Old Ontario too—we have a valuable asset consisting of millions of acres of land suitable for ranching purposes, and capable of sustaining hundreds of thousands of head of cattle.

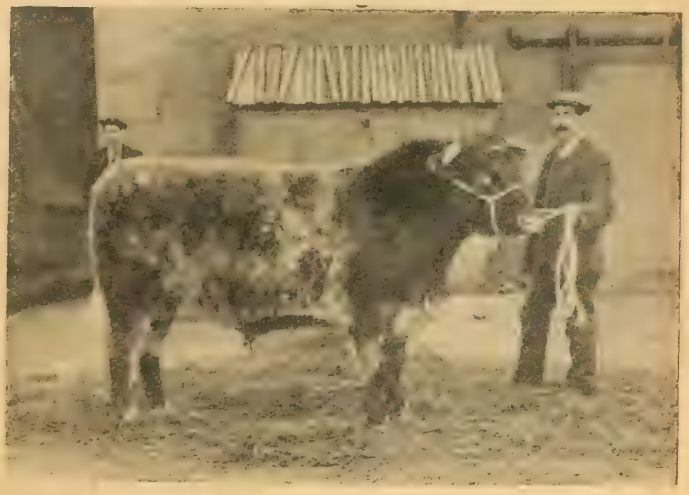
This ranching region consists of the Laurentian Highlands stretching from the Georgian Bay to the St. Lawrence River. Its south-western border is skirted by the Trent Valley Canal. This immense tract of rough land now robbed of its valuable timber through the agency of the lumberman and the forest fire, is regarded as the proper field for the licensed hunter and the unlicensed poacher. It consists of a series of rocky ridges

Good Shorthorns Are Becoming Scarce—The Prices and Types at the Recent Show and Sale of Shorthorns at Perth, Scotland.

Millhill's Rothes King, 10 months' old, winner of second prize, sold for $5,512.

Warspite, of Naemoor, a second prize calf which brought $5,250.

Garhity Golden Victor, the champion, sold for $11,025 for export to Argentina.



Doune Grand Knight, first and reserve champion, sold to to go to South America for $5,250.

and valleys, with hundreds of small lakes and streams, and numerous beaver meadows, with here and there a few acres of arable land of inferior quality upon which some lone settler has been stranded. The region is really a plateau cut in narrow ridges that rise about one hundred feet above the intervening valleys which run across the plateau in a south-westerly direction parallel with the creeks that empty into the Kawartha Lakes. These ridges consist of granite rocks, which by successive fires have been largely robbed of their thin soil covering, formed of decayed leaves and other vegetable matter. Much of this level no longer produces any revenue.

That this land now denuded of its valuable timber is suitable for ranching purposes might be open to doubt were it not that a successful beginning has already been made.

One company has been formed which has leased from the Government 15,000 acres in the township of Burleigh in the county of Peterboro for ranching purposes at a rental of three-quarters of a cent per acre, which is a high rent considering the large amount of waste land included. This ranch has been enclosed with a wire fence, except where cliffs and lakes form natural barriers that make a fence unnecessary; suitable buildings have been erected. During the present year two hundred cattle have been grazing on the ranch. The whole business is under the supervision of Rowland C. Strickland, who was the promoter of the company, and now the manager of the ranch.

Mr. Strickland is himself an interesting personality. He is a man of enterprise, a man of brains and of heart. In his earlier years he was engaged in the lumber business. He tells us that in his day he has floated on its way to Quebec as much as $200,000 worth of timber down Eels Creek, which flows past his ranch. He started the first co-operative cheese factory in this part of Canada, and has now started the first company ranch in Ontario. He belongs to a family of authors. His father wrote "Twenty-seven Years in Canada" in two volumes. Three of his aunts were authoresses of note: Miss Agnes Strickland, who wrote "The Queens of England"; Mrs. Moodie, and Mrs. Trail, the latter of whom received a gift of £100 from the late Queen Victoria in recognition of her work as an author. One of his daughters, the wife of the editor of "St. Nicholas," is also an author.

Although past three-score and ten he says he is only forty-nine according to the theory that "a man is no older than he feels and a woman no older than she says." While he lives in this comparatively wild and secluded spot, close to nature, in God's great out-of-doors, he is not cut off from civilization. Here are good schools and churches, a daily mail, a government road, and telephone lines which keep him in close touch with his neighbors and the whole outside world. From his house he can talk to Toronto, and at his gate are delivered the Toronto papers the same day they are printed.

CAN SUPPORT 500 CATTLE

Although Mr. Strickland has only 200 head of cattle this year, the ranch is capable of sustaining 500 head throughout the whole year, both summer and winter. The hillsides and valleys furnish abundance of pasture in great variety from early spring up to the time of hard frost in the late fall, which retains its juiciness throughout the dry months of summer, while a constant supply of water is found in the numerous lakes and streams. The young trees and underbrush afford sufficient shade from the hot sun as well as protection from the flies. The beaver meadows of the ranch are capable of cutting 1,000 tons of hay, nutritious and sweet, upon which the cattle thrive during the winter months. Mr. Strickland, who keeps neither horse nor cow, hires his neighbors to cut this hay in the months of August and September, and it is stacked on the ground where it is cut. One characteristic of beaver meadow hay is that it never spoils when exposed to the weather in a stack, hence it is not necessary to put up a barn in which to store it. This hay is drawn to the cattle sheds in the winter just as the cattle require it. The hay is drawn on sleighs over a practically level road, following the contour of the hills and valleys.

The cattle buildings consist of an open shed, a bank barn, and a hopper-like feed-rack for hay, each of which is nearly 100 feet long. The barn is built on the side of a cliff so that the hay is thrown in from the upper side through a hole in the roof. The open shed is also built in the side of the cliff. The feed-rack will hold three or four loads of hay, and is filled up whenever it becomes empty. These buildings, situated in a gully between two ridges, are well protected from the winter storms. Even in the coldest weather the cattle prefer to sleep in the open around the feed-rack rather than seek the shelter of the sheds. Through this valley about one hundred feet from the sheds runs a perennial stream which supplies the cattle with water.

BUY IN SPRING, SELL IN FALL

The company, however, does not propose to winter all the cattle. Steers can be bought in the spring and sold in the fall, having in the meantime put on 300 lbs. of flesh, which at seven cents a pound means a gain of each animal of $21. For 500 animals this would mean an increase of $10,500. After deducting the interest on the investment and the cost of management, which would be very small, a handsome profit would be realized.

The few years of experience of this young ranch has fully demonstrated the feasibility of ranching in Ontario, and has shown that we have an unusual and heretofore undiscovered asset in the Laurentian plateau.

Ranching is a protection to game, and ranching is a protection against fires. In the past young growing timber has been killed, and game birds and beaver driven out by the ever-recurring fires which found fuel in the dried-up grass and weeds and other material, both in the meadows and highland; but now this vegetable material is being consumed by the cattle, thus robbing the fire of its fuel. Where fires are prevented, game birds and beaver return and young trees get a chance to grow. Ranching is also a protection to the valuable timber.

Prof. R. Harcourt, of the O.A.C., Guelph, has furnished the following figures, from which it will be seen that beaver meadow hay is superior to timothy, though not quite equal to red clover, in feeding value.

The composition of beaver meadow hay is approximately as follows:

	Ash	Protein	Fibre	Nitrogen free extract	Fat
Blue joint ..	5.9	12.0	39.9	38.5	3.7
Blue joint...	6.2	7.3	28.9	55.1	2.5
Sedge	6.7	10.1	36.6	44.3	2.3
Timothy	5.1	6.8	33.5	51.7	2.9
Red clover .	7.3	14.5	29.1	45.2	3.9

The blue joint and sedge are taken as representative of beaver meadow growth. The figures given are calculated to absolute dry matter. In the form of hay there would be approximately 15% of water with a corresponding decrease in the figures given.

Wool Grading and Sale.

In response to the demand of the Dominion Sheep Breeders, at their last annual meeting, the Dominion Government is providing facilities for the storage and grading of the wool clip co-operatively.

The Ontario sheep men will have their wool sent to Guelph. The Western men are being assisted by having all their wool, probably, from one and a half to two million pounds of wool, shipped to Toronto for this purpose. The wool, as received from the association, graded by the Government officials in the field, will be warehoused by the department acting as the custodian for the growers.

It is anticipated that satisfactory arrangements may be concluded between the associations and the banks, by which money will be advanced to the growers on warehouse receipt after the wool is sealed in the cars at the shipping point. The wool will be fully insured and a charge to cover insurance and storage expense will be made, the amount of such charge to be determined later. The services of the graders and departmental officials will be given free.

The Live Stock branch at Ottawa will answer all inquiries.

Belgian Relief

The Belgian Relief Committee reports, through Mr. Hoover, the chairman, that they have lost 15 ships in the last two years out of 500 voyages. He further says:

"Of our ten million wards, two and a half millions are in the occupied portion of France, and are fed through money given us by France. Of the seven and a half million remaining in Belgium, more than three millions and a half are totally destitute, and their Government, their financial institutions and their wealthy individuals are unable to provide for them, although they have unstintingly divided all they have.

"These unfortunate people are dependents upon the conscience and goodwill of the world. The situation is critical. The price of foodstuffs increases enormously. There is another point which I desire earnestly to impress upon every father and mother and upon every clergyman and every physician, that is, that in order to preserve the children of Belgium it was necessary some months ago to increase their allowance of food to beyond the 50 per cent. normal ration which is distributed to the destitute. To provide for this extra meal cost us an extra dollar per child per month—and there are 1,250,000 hungry children in Belgium."

Subscriptions will be welcomed by the Central Belgian Relief Committee, 59 St. Peter Street, Montreal, or by any branch committee in Canada.

Mechanical Power in Farming

It is the Heavy, Man-Killing, Muscular Work That Wears Us Out. We Can Make a Machine or Contrivance do it for us in Many Cases

By F. C. MACKENZIE

If you have a way of doing some farm work by the aid of a machine or a contrivance of your own invention, send in a photo to the editor, explaining its operation and use. Where you have found big returns from some machine, also write about it. It will help your fellows on other farms.—Editor.

—Photo by Dickson.

A mill in Blair, Ont., that uses the water that is past. After the water passes the turbine in the mill it flows a short distance coming to a tower—

—Photo by Dickson.

—where it drives a set of water wheels in the base of the tower and the power is transmitted back to the mill by an endless wire cable. Wheels shown.

IF THE average weight of a farmer is 150 lbs., he can do approximately 1,200,000 foot-pounds of work each twenty-four hours. The mechanical equivalent of hard labor has been obtained from statistics from experience with tread-mills. It represents a climb of 8,640 feet in 24 hours.

Now a horse-power for 24 hours is commonly represented by approximately 48,000,000 foot-pounds. At this rate it would require 40 farmers to yield a continuous horse-power and over double this number if we allow for broken and disabled periods of work. The wages of these 40 men would be $100 per day, or $36,500 per year.

An electric motor doing the work of 40 men would consume not more than $180 worth of electricity per annum, and in many cases the bill would be much less on account of better rates. Gasoline power would come higher, but water and wind power would be still less than this.

It is obvious then that men were never intended for use as generators of power.

Yet farming to-day consumes more power in Canada than all the industries combined, and mechanical contrivances do not play the full share in their power problems that one would expect or that they should.

Except for the use of commercial fertilisers and the operation of harvesting machinery, agriculture methods have not been substantially changed for fifty years, and the human energy required to plow, harrow and cultivate the ground is almost, if not quite, as great as in the pioneer days.

In nearly every other department of human activity the use of mechanical power and labor-saving machinery has so increased the production per man, that shorter hours and higher wages have not been incompatible with the larger output required by society. But on the farm, the hours of labor have not been materially shortened. It is still necessary to rise at dawn to feed the stock and to milk the cows, and to work till dark to save the crops. Wages have gone up, of a necessity they had to, in order to hold any men, but the drift from the farm to the urban centres tells silently of the situation.

The use of power machinery then, would have a tendency to keep people engaged in agriculture. In a great many cases it is the utter irksomeness of a round of hard work that never ceases, and which is aggravated by poor management, that sickens and tires, first the woman, and then the man, of farm life. If the farmer could make some power, such as wind, water, gasoline or electricity do his hard work by the aid of suitable machines, and if the woman could secure a like consideration in her work, the great burden of complaints would be lifted, and young people would choose for their portion a wide-open life next to the great out-of-doors.

And while farming as a business has not assumed the use of machines and mechanical power as fast as many of us think they should still there is much hopefulness in the way that agricultural officials are reaching out, as does Dr. G. C. Creelman in his new position as Commissioner of Agriculture in Ontario, in extending the assistance of that province in securing better water services for farm homes.

The farmers are never behind government progressiveness generally it is development of the needs to an intense situation that forces governments to act. A clear reason we think why any permanent hopefulness can be expected from administrative initiation.

Water and lighting systems are being demanded by intelligent farmers

One form of power that the farmer has adopted in his corn harvest. An ensilage cutter at work on Tremble's farm, Ontario county. The silo is a square one built into the barn plan.

A Small Adjustable Crane With Which One Man Can Load and Unload Big Shocks of Corn, Bales of Hay and the Like Without Difficulty.

everywhere. Their installation is now an easy matter and the cost comparatively small. Both these conveniences are enjoyed by city houses, and many rural places have adopted one system or another. Manufacturers are catering to this trade.

Other labor-saving devices operated by mechanical power are employed on a small proportion of Canada's farms. Such machines as, the cream separator, the milking machine, feed grinders, threshing machines, wood saws, hay presses, corn shellers, fanning mills, hay forks, pumps, self-binders, root pulpers, ensilage cutters, sprayers, cement mixers, ditchers, and others, can be hitched up quite easily to an engine by the average farmer and the work of many men quite easily done.

THE MILKING MACHINE

Of all jobs on the farm, that of milking a number of cows after coming in from the days' work, to me was the most tedious. Some say they like it. But I find the big majority could just as easily be persuaded to do the feeding or some other chore in exchange. D. C. Flatt and Son of Wentworth Co., have a continent wide reputation as breeders of the Yorkshire hog and the Holstein cow. Their large herd supplies milk for their own distributing plant in Hamilton. The war has accentuated labor problems with them also. So that they introduced a milking machine to assist them at the farm. Extensive inquiries were made as to the make and principle of the machine and they finally settled on a low-priced one. This machine has proven all that was claimed for it. The proprietors find it easy to operate, fairly easy to keep clean, simple in construction, and that it keeps down the bacterial count in the milk.

Hoard's Dairyman recently reported a census of milking machines in Jefferson County where over 175 were in operation.

OPINIONS FROM OWNERS OF MACHINES

In addition to a considerable amount of data secured in this study, care was taken to secure the expression of opinions from the various operators as regards the following points:

1. *Is your engine used for any other purpose than to run the milking machine?* To this question 58 answered yes and 39 answered no.

2. *Are the milking machines injurious to teats or udders?* One hundred and six operators answered no and two, yes. These two thought the machines spread garget, but no other injuries could be laid to the machines.

3. *Is it desirable to use different sized teat cups?* While there was some difference of opinion regarding this point, ninety-five operators answered no, eleven answered yes, and two were doubtful.

4. *Would you prefer hand milking to machine milking?* Answering this question 101 answered no, and seven answered yes, claiming that no machine could be as perfect as the hand for milking.

5. *Is the machine entirely satisfactory?* Answer, 104, yes; two, no; two, doubtful.

Haying is one of the hard manual jobs on the farm. In it too machinery has played a beneficent purpose. We have mowing machines, side delivery rakes, tedders, hayloaders, and hay forks for unloading. The hay fork is a big labor-saver in the barn. Of course the power is furnished largely by horses, but one enterprising farmer named Andrew Allison, near Pickering, last year invented a device for using his small 2½ h.p. gasoline engine to do the elevating. This

Taken while at work on Fleming's Farm last October. Tractors that will plow 2 or 3 furrows and do belt work are receiving favorable attention from Ontario farmers.

engine drove a set of gears operating a drum that wound up the rope upon a release being given by means of a lever by the man on the load. An automatic shut off was attached that prevented any more power than was needed. A weight attached by a third rope brought the car back to the loader by gravity. By this means a man and a boy or two men could easily take off and mow away the hay crop from a 200-acre farm with less physical labor than the small 50-acre farms formerly expended.

CEMENT MIXERS

Building operations on the farm have undergone big changes during recent years. Last summer I witnessed an example of the part machinery plays. The township council let the building of a cement culvert to one man who did the whole work unassisted and had the job completed in less time than another builder has put in a wooden structure employing an extra man, and it is permanent. Housebuilding, barn basement building, hen-house, pig-pen, sheep-pen and drive-shed erections require very few men. In fact the farmer himself with his ordinary help can do all these with the aid of a cement mixer, a lifting jack, steel frames and the working knowledge. It pays any man with any construction work to do to own a small mixer. Barns and houses, tanks and silos grow into existence easily under modern power methods.

GASOLINE ENGINES

The number of gasoline engines on Canadian farms number over half a million and the number is growing fast these war days. To-day they are perfectly understood by most men who use them to operate machines of all kinds.

The present city activity about production and this back yard farming about which we hear so much is due wholly to the preponderance of city dwellers over the rural. The urban population is dependent upon the other half of our people for support. The prices of potatoes, wheat, and meat have already risen nearly one hundred per cent. and over in three years. The only corrective in normal times is greater power in farming and that promises to come from gasoline.

Just as steam has made city life possible and tolerable, so gasoline promises to make country life endurable and attractive. It has already done much in this direction. When Oscar Wilde first visited the United States, he said that the cooking-stove and the piano were the great civilizing influences of American life. If he were in America to-day, he would probably admit that the automobile had done more than the piano to ameliorate the tedium and isolation of rural existence in this country.

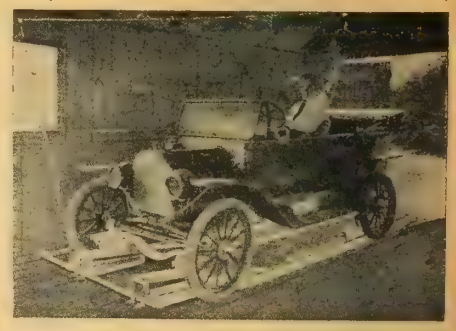
The farmer of to-day demands for his wife and family a reasonable amount of social intercourse and enjoyment. This is one reason why the city draws him. Farm life to reattract him must be able to compete with the city in this respect. The automobile has made this possible.

With the automobile, the telephone, and good roads the farmer and his family are no longer condemned to solitude. This is gasoline's first contribution toward agricultural extension.

TRACTORS AND TRACTION POWER

Tractive power is indispensable to the farmer. It is required to pull his plow, his harrow, and his cultivator, to harvest his crops and haul them to market, to clear his ground, and to distribute his fertilizer.

A low-priced light-weight gasoline tractor that would do the work of about four horses and could pull a plow in a nine-inch furrow at a speed of two and one-half miles an hour, or a loaded wagon over a country road at the rate of ten miles an hour, is therefore the greatest need of the Canadian farmer to-day.



By Means of a Cord the Driver of the Car Automatically Raises the Car Off Its Tires.

A Hyphenated Grain Grower

Rice-Jones, the Young, Resourceful Head of Alberta's Co-operative Elevators, is a Returned Soldier From the South African War

By NORMAN LAMBERT

"The Alberta farmer is sound. True, we have many American farmers in our province, and I find him loyal to Canada. Race and creed cannot split us now in Alberta. We want no third party in politics. Rather let us keep the politicians guessing. We can support the man we believe in, no matter to what party he belongs."

The above sentiments were expressed by Mr. Rice-Jones at the annual meeting before the United Farmers of Ontario, to which the writer alludes. The sketch ought to impress every Canadian farm boy with a profound sense of the value of stout common sense and a will to fight it out. That is the John Bull way.—Editor.

THE name, Rice-Jones, has given to the Grain Growers' movement in the West a sort of paradoxical effect. Amongst the leaders of a movement whose entire programme has been as radical and revolutionary as that of the Western grain growers, one hardly expects to meet an Englishman with a hyphenated name. As has been written already in the course of this series of sketches, the radical English agitator had a great deal to do with the birth of the Grain Growers' organizations on the plains of the Middle West fifteen years ago. It has been the same restless spirit of the old land that has pressed forward and extended the influence of that rapidly growing body of organized farmers.

But as the Grain Grower, through his numerous and flourishing commercial institutions, has accumulated power as a business man, his radicalism has become tempered and steadied. He has become to a certain extent conservative.

The handling of millions of dollars worth of grain, live stock and farm supplies of all kinds through his co-operative companies, has made the Grain Grower a very responsible person. When he agitates for anything now, he sees clearly and practically before expressing any claim. There is added weight behind any argument issuing from the official headquarters of the Grain Growers' Movement today. As the typical embodiment of that solidity of character which the Movement has gained in recent years, Cecil Rice-Jones, the young President and Manager of the Alberta Co-operative Elevator Company, is a striking and inviting figure.

Born in a rectory in Somerset, England, thirty-six years ago, the son of an Anglican clergyman, Cecil Rice-Jones, after living for twenty years as a farmer in Alberta, appears in the public life of his adopted country as one of the most promising leaders of a widespreading agrarian movement. He affords the interesting example of the steady English nature, probably more conservative than otherwise, animated by the radical ideas which seem to have a natural bed in Western soil. Unostentatious in the extreme, modest, unassuming, but saved from stolidity by a twinkling, happy humor, he represents the interesting political product resulting from the triumphant action of direct methods upon a conservative temperament. *He is, in a word, one of the many instances of paradox, born of the West. The whole Grain Growers' Movement, moreover, is full of such paradoxes.*

During their recent annual convention in Toronto, the United Farmers of Ontario had the pleasure of listening to speeches from Rice-Jones and three other visitors from the West. The others were T. A. Crerar, of the Grain Growers' Grain Company; R. J. MacKenzie, secretary of the Canadian Council of Agriculture, and H. W. Wood, president of the United Farmers of Alberta. In the February number of THE FARMER'S MAGAZINE, Wood, of Alberta, was sketched, and now we have Rice-Jones, as the other dominating personality of the organized farmers in that province. Rice-Jones and Wood, although the latter is many years older than the former, make an efficient working team.

One is distinctly the complement of the other. Wood deals in the first principles of the Grain Growers' Movement like a political teacher enunciating a fundamental doctrine. He has the temperament of the orator—the faculty calculated to manage and lead bodies of men in the mass. Rice-Jones, on the other hand, is the student of business detail, careful and deliberate. Those who met and heard him in Toronto, saw a youthful looking man whose twenty years of pioneering in the West sat with amazing lightness upon his head. The determined expression of the face, the resonant tone of the voice, and the solid, rock-like build of his body, suggested a serious sense of responsibility, combined with the irresistible strength and energy of one of John Bull's superdreadnoughts.

A RETURNED SOLDIER

Rice-Jones was just sixteen years old when he came to Canada in 1897. He had received a good education at Hurstpier Point College, in Sussex, and for a time he had lived with his family at Brighton. His early environment, therefore, was not characterized by generous doses of radical teaching, such as entered into the first viewpoint of other present leaders in the Grain Growers' Associations. He was attracted to Canada by a friend whose brother had a ranch in Southwestern Saskatchewan. Rice-Jones worked on that ranch for two years, and then went to South Africa with the Strathcona Horse. After the Boer war was over, he returned to Maple Creek, where he had enlisted. He was one of the returned soldiers whose military experiences did not alienate his desire for a life on the land. Buying a few head of cattle, this young Englishman, only twenty at that time, secured employment for a year on a ranch near Maple Creek. There he looked after his own cattle as well as attending to the interests of his employer. At the end of that first year, he leased some grazing land and started a ranch of his own. About this time he went up to Calgary and was married. For seven years he operated his ranch in the Cypress Hills district. Then he was prompted, as many another settler in a vast new country has been urged by the restlessness within him, to seek new land in the homestead district farther north.

Having been given scrip by the Dominion Government after his return from South Africa, and not having disposed of it to the highest bidder, Rice-Jones was entitled to locate a homestead and preemption in any part of the West that was open to the settler. Accordingly,, he drove northward one fall and spent two months looking about the country now traversed by the Lacombe-Kerrobert branch of the C.P.R. He struck across country from Maple Creek to Medicine Hat and thence to the C.P.R. survey line just east of the town of Stettler, which in 1908 was the end of the steel on the line running from Lacombe. Finally, he located a farm 96 miles south-east of Stettler. In the spring of 1909, Rice-Jones and his wife and two small children started on their trek across the plains from Calgary to their new home, one hundred miles distant from the nearest railway station. The story of the pioneering experiences of the Rice-Jones family is full of romantic interest, reflecting an experience which unconsciously but surely was training a man for the work of leadership amongst his brother farmers in years to follow.

HAD RUINED CROPS FOR THREE YEARS

For three years, the district in which Rice-Jones went to live as a homesteader did not yield anything. Drouth and hail alternately ruined the crops in that section of Alberta, and the few resident settlers were reduced to most distressful conditions. There were people in that community, I remember hearing Rice-Jones say on one occasion, who lived almost entirely on oatmeal for the greater part of one year. Not until the fourth season were the settlers successful in harvesting their crops. By this time the railway line was reaching across the prairie towards Rice-Jones and his neighbors. The distance between them and the nearest station where medical aid or supplies could be secured, was gradually lessened. The district began to fill up with new settlers, and land seekers were busy migrating through that quarter of the province. The Rice-Jones shack on more than one cold night was pressed into service as a shelter for land hungry travelers. On one occasion when the man of the house had been obliged to go into Calgary on business involving a week's trip, Mrs. Rice-Jones was kept busy providing for travelers. The morning before her husband returned from that particular trip she had twenty-two people for breakfast. Their prairie home located in a district where the majority of the settlers were bachelors, became a natural half-way

house, and its master quickly gained recognition as a leader in the community.

The railway line from Lacombe to Kerrobert, was finally completed, and to-day the Rice-Jones farm comprising 640 acres, in addition to 1,000 acres of leased pasture land, is within 7 miles of the town of Veteran. The pioneer days in that district have passed. Rice-Jones has five hundred acres of his section under cultivation, and in addition to raising grain for market, maintains about sixty or seventy head of horses. He is one of the few returned veterans of the Boer War who retained his Federal grant of land, and made a success of it. From what he saw of the many abuses attending the distribution of South African scrip in Western Canada, Rice-Jones expresses himself today as strongly opposed to any such system of dealing with the veterans of the present war. "Only ten per cent. of those old South African scrips were taken advantage of," he says, "and I have known of certificates that were exchanged for as little as $200."

STARTED A G. G. LOCAL

It was not long after Rice-Jones' location on the land east of Stettler, that he began to take an interest in the work of the Grain Growers' Movement. In 1911, he was instrumental in having a branch organization of the United Farmers of Alberta formed at Wheat belt, which at that time was a small centre, some two miles distant from Veteran. There were forty enthusiastic farmers at the first meeting, and two years later, Rice-Jones, who was made the first chairman and president of the new branch, had succeeded in raising the membership to 186, thereby making it the second largest union in Alberta. It was in 1913, partly as a recognition of the splendid work that had been done amongst the farmers of his district, that Rice-Jones was elected a director of the new-born Co-operative Elevator Company. Two years later, when through faulty management, that institution had approached a critical position, he was called on by the company's directors to take complete charge of the business, and was duly elected to the office of President and General Manager. Remarkable success has attended his administration of affairs from the head office of the company in Calgary. At the conclusion of his first crop year, he had placed the concern strongly on its feet. With 87 elevators in operation during the crop season of 1915-16, the Alberta Co-operative Company handled over 19,000,000 bushels of grain. In that same year, the live stock marketing department had a business turnover amounting to $800,000, while through the co-operative supply branch, the volume of business amounted to $600,000. The present season of 1916-17, which is not yet completed, will show increases over the figures of last year. At the present time the Alberta Co-operative Elevator Company, Limited, includes 102 elevators, 60 coal sheds, live stock and co-operative supply departments.

UNITES WITH G. G. G. CO.

Last December, in Winnipeg, Rice-Jones and the other directors of the Alberta Co-operative Elevator Company, conferred with T. A. Crerar and other directors of the Grain Growers' Grain Company, and they decided to amalgamate the two institutions under the name of the United Grain Growers, Limited. This step was taken with the expectation that some day the Grain Growers of Saskatchewan and the Co-operative Elevator Company of that province will see their way clear to merge their interests with those of the other two provinces. But on this question of centering all the interests of the Grain Growers of the three provinces under the control of one big business organization to be called the United Grain Growers, Limited, it is well acknowledged now, there is a wide difference of opinion. Rice-Jones is one of those who believes that the whole Grain Growers' Movement will be best served by an amalgamation. Many of his friends in Saskatchewan differ with him, contending that by preserving the identity of the provincial institutions the general cause of the Grain Growers may be best supported. Hon. C. A. Dunning is one of the most outstanding advocates of the latter system. He and Rice-Jones are the principal representatives of the two opposing ideas in their respective provinces. In any study of the leaders of the Western Grain Growers, these two men naturally would be grouped together for comparison and contrast. Both are English born, and about the same age. Both men reached Western Canada about the same time. Dunning became manager of the co-operative elevator in Saskatchewan, while Rice-Jones reached a similar position in Alberta. Here their roads part. Dunning has become a Minister of the Crown in the Government of his province, and he is also opposed to the movement undertaken in the forming of the United Grain Growers, Limited. Rice-Jones has not yet aspired to political honors. It is difficult to see how he will avoid them some day. In the meantime, however, an added interest will attach to the development of the issue between the Grain Growers of Saskatchewan and those of the two sister provinces on either side.

Creelman Urges Activity

Splendid Proposals For Bringing Rich, Old Ontario Farms Into Prosperity, Made by the New Commissioner of Agriculture

THE MOST momentous plans for the promotion, improvement and extension of farm products in the history of the province are under consideration by Dr. George Creelman, the new Commissioner of Agriculture.

THE PROPOSALS

The proposals as outlined by the Commissioner provide for:

Additional labor from other provinces.

Additional labor from the United States.

The co-operation of the Board of Education in securing boys from the High Schools and the Collegiate Institutes for the land for four months from April 20.

Winning retired farmers back to the land through a patriotic appeal by the Resources Committee to over 300 patriotic associations in the province to recruit retired farmers for the farms this summer.

The establishment of seed farms.

The perpetuation of pure strains of seed.

Co-ordinating the work of the branches of the Agricultural Department and co-operating with the Federal Department of Agriculture.

Linking up the work of the Ontario Agriculture College with the farmers on their own farms.

Broadening the activities of the department.

Investigation of the potato question and encouragement of Ontario growth of seed potatoes.

Investigating of cold storage facilities with tests of the keeping qualities of foodstuffs.

Promotion and encouragement of co-operative societies for the handling of farm products.

Engaging the interests and directing the energies of wealthy men in the province in agricultural pursuits.

Loans to the farmer at reasonable rates of interest.

Immediate increase of farm crops by better methods.

Twenty per cent. increase of grain by the use of the best seed.

Adoption of proper farm accounting system and resultant improvement of agricultural methods.

Encouragement of live stock and the use for breeding purposes of only the best pure bred male animals.

The extension of the Ontario Veterinary College course to four years.

Preservation of female live stock—calves, pigs and lambs—and resultant increased stocks.

Adoption of measures to increase the local consumption of Ontario's apple crop and prevent importation.

Doubling of poultry flocks.

Wool grading by Government graders.

Cheap and efficient waterworks plants for farmers.

Grading of butter.

OPPORTUNITIES TO FARMERS

In the view of Dr. Creelman, Ontario offers opportunities to the farmer superior to those of the middle West. Ontario has never known an agricultural failure. It offers a greater variety of crops than the Western provinces. It is much nearer to world markets. It is a surer field for agriculturalists and in mixed farming it is far ahead of the West. Its trees and flowers, lakes and rivers, upland and lowlands make for a variety of scenery and crops. The war has brought recognition

to every element in the province of the worth of the farmer.

On account of the scarcity of labor it is not anticipated that there will be an increase in acreage this year. Immediate increase of farm crops, it is hoped, will be brought about by improved methods. The necessity for securing adequate labor for the farms is receiving great attention. Dr. Creelman is greatly impressed with the value of boy help.

In regard to interesting wealthy men in agricultural pursuits, Dr. Creelman said: "Many of our wealthy men in cities and towns are showing a desire to own and operate farms in Ontario. We hope to be able to advise these men along sensible lines that they may do the best for themselves and also help in developing Ontario agriculture by showing what can be done on a larger scale than the average farmer can afford.

LOANS TO FARMERS

In the matter of loans to farmers which is under consideration bythe Legislature in a bill introduced this session, Dr. Creelman attached great importance to the adoption of proposals whereby farmers may be able to borrow money to tile-drain their land, build silos, purchase improved machinery and buy live stock. The promotion and encouragement of co-operative societies for the handling of farm produce is another matter attracting his earnest attention.

"The farmer," he declared, "is, perhaps, the only man who neither sets the price of what he buys or what he sells. Only organization can help this situation and we hope through farmers' clubs and other societies fostered by the District Representatives to establish many useful co-operative societies under the new Act."

These measures will be of direct benefit to the farmer this summer, the most vital agricultural period in the history of the province. The employment of better seed is expected to yield larger crops despite the shortage of labor. The Department is urging upon the farmers the necessity for sowing only large plump seeds, which Dr. Creelman declares, will produce 20 per cent. more crops than shrunken seeds from the same bin. "By the use of the fanning mill alone," he declared, "farmers should this spring run through three times as much grain as they require for seed purposes and sow only the one-third which will contain all the large, strong grains.

SEED FARMS

In the same connection Dr. Creelman proposes the establishment of seed farms:

(1) For the perpetuation of varieties originated or improved at Guelph.

(2) To facilitate a more rapid distribution of the same.

(3) To obtain seed from localities where the climate and soil are peculiarly adapted to their development.

(4) To grow alfalfa seed in quantity in Ontario.

(5) For the perpetuation of pure strains of seeds, free from weed seeds.

"Arrangements have been made under the auspices of the Ontario Sheep Breeders' Association, whereby Ontario farmers may ship their wool to the Winter Fair Building, Guelph. There it will be graded by Government graders and then sold to the highest bidder. This system has met with great success in other countries and in other provinces of the Dominion and should prove of great benefit to local breeders.

GRADING THE BUTTER

For years we have been marketing our butter in the lump and the buyers have been gambling on the quality. Graded butter has been coming in and commanding a higher price than our product notwithstanding the higher freight rates. We now propose to grade the butter at central points and sell by quality. Both the producer and the buyer are heartily co-operating with us and arrangements have been made already to grade at London and Toronto during the present summer.

The British embargo on apples may find us with a large surplus next fall. We are considering four suggestions to meet the situation:

(1) A campaign advising every loyal citizen of Canda to eat apples every day instead of imported fruit, which amounted in the Dominion last year to $10,000,000.

(2) Advising all householders to preserve or dry or make into jelly a larger quantity of apples than usual.

(3) Canning and evaporating apples this year in a large way.

(4) Encouragement of cider drinking.

ATTENTION TO LIVE STOCK

Live stock is demanding much attention from the Commissioner and the Department. "Great impetus may be given in Ontario," he declared, "by encouraging the importation and use of only the best pure bred male animals. By creating a premium class of stallions as they have done in Scotland, we should greatly enhance the value of our annual crop of colts. We are now working on the subject with the Horse Breeders' Asociation."

EFFICIENT WATERWORKS

Other important matters are under his consideration. Amongst these is the cold storage question and the provision of cheap, efficient waterworks for the farms. The department is getting out plans for a cheap waterworks plant which will give hot and cold water in every farm house. Charts are being prepared to be used at every Women's Institute meeting held in the province this summer, and by this means it is expected that the economical and useful appliances wil be brought to the attention of at least 150,000 women.

BIG SCHEME PROPOSED

In the province there should be put into operation at once a big scheme whereby the entire farm operations of at least 1,000 farmers could be actively reported on during the entire season. The second year the number should be increased to 3,000 and the third year, perhaps, to 5,000.

From such a process we should be able to secure valuable data which should lead to a revival in farming.

We should be able:

(1) To expose the weaknesses of the present systems.

(2) To learn to avoid waste.

(3) To stimulate business methods.

(4) To study the relations of tenant and owner.

(5) To find out the advantages of long term leases.

(6) To learn the length of life of machinery.

(7) To find out the relative profits of large and small farms.

(8) To learn the value of horse versus motor power.

(9) To secure information from beginners regarding investments in agriculture.

(10) To find the relative profits from different kinds of farming, such as fruit, dairy, beef, seeds, poultry, etc.

(11) To secure accurate data regarding the value of good roads in relation to farming.

(12) To study the whole question of marketing farm produce.

(13) To get a better knowledge of the necessity for co-operation in buying, selling, exchanging work, implements, etc.

The soil survey is of equal importance. For the past two seasons the Department of Chemistry of the Ontario Agricultural College has been working on a preliminary soil survey of the province. It is the first work of its kind undertaken in Canada, and it is completed for that part of the province lying west of a line running north from Toronto. The maps of this district are now in the printer's hands and the first report will soon be made public.

SOIL RESOURCES

"The soil survey," the Commissioner explained, "really amounts to an inventory of our soil resources. It will enable us to make a systematic study of the deficiencies and capabilities of our soils, their various properties and characteristics. One of the great needs in agricultural work to-day is a more general recognition of the fact that soils differ widely in their capabilities. Much valuable time and money has been wasted trying to draw conclusions from experiments conducted on entirely different soils. With the widely varying types of soils in the province, it is impossible for one farmer to be guided by another regarding the kind, or even the variety, of crop he should grow, the fertilizer he should use, or even the method of cultivation to be employed. The quality of crop is influenced by the soil. This is seen in the better quality of apples produced in some districts and by the fact, recognized by the miller, that the wheat grown in certain parts of the country will produce a better quality of flour than can be obtained from the same variety grown in other districts.

Shipping Baby Chicks.

We ship thousands of baby chicks all over Ontario, Quebec, Maritime Provinces and a few shipments into Manitoba; also into the border States. We do not advise, however, shipping baby chicks more than 500 to 1,000 miles, this also depends on train service. We have shipped as far as Medicine Hat, Alta., successfully, but there is too great a risk in long distance shipments. The chicks are dried down after the hatch is over and hardened to a temperature of about 98 deg. Then they are packed in paste board boxes made for the purpose, holes being cut in the sides and top. Over the top is placed a small wooden rack which is a protection in this way that it keeps any other parcels being placed on top of the box, and so cutting off ventilation. These shipments as a rule reach destination in good condition and a wider field is opening up for the baby chick trade every year.—L. R. Guild.

Woodmere's Feeding Plant

Putting An Old-Fashioned Farmstead Into Modern Clothes. The Absorbing Interest There is in Reconstruction

By MACKENZIE HALL

"I DON'T believe I will. These manufacturers do not care for me. All they want is to sell their stable fittings and let me hustle for the money to pay for it. I can patch up my old stable to do me for some time."

"Well, Geordie, you may be right about the men who sell, but you certainly would get a great deal more comfort out of your work if you would quit pottering around with such miserable accommodations as you have. It makes no difference to you what the makers think of you so long as you get value received and your wants are supplied, does it?"

"But do I get value for every modern contraption such as stanchions, water-bowls, swinging doors, iron partitions and cement floors?"

"Well, how is it that so many progressive farmers are using them," I queried of my genial host during a visit to this old-fashioned farm during the holiday week. George was a fine type of fellow, who had a robust physique, a jovial disposition and a hospitality that makes so many farm houses a reminiscence that repeatedly calls us back to them.

Woodmere, as he named his homestead, stood in a commanding part of an Ontario landscape. From the barns, the whole 150 acre farm could be seen, while the layout of the fields, even to the creek pasture at the rear, was a most convenient one. Largely, of late, the farm had been seeded down, to run carloads of cattle in the summer and to allow of a flock of 30 Suffolk ewes, which looked a mighty fine picture in white and black, as they stood with their black heads and straight legs eyeing the visitors to the yards.

OUR GRANDFATHER'S BARNS.

The barns were the old L-shaped structures so commonly built by the first settlers in Ontario. The stables were scattered under the whole of these roofs, and no great effort at convenience had been considered in the arrangement. Probably such little savings of time and steps were not so essential when these barns were built, as they are in these modern days, when with small families, and scarcer farm labor, it is decidedly a different proposition. One man simply can't do the chores in such an arrangement. It leaves him no time or ambition to do extra work during the day. This was the subject of our debate when my friend George Powers shook his good-natured head denouncing the stable equipment ideas I suggested to him.

"Now see here, George, you have nothing to do to-day after you get the feed ready for night, let us take a survey of your place and dream things for awhile." And my suggestion was readily agreed to, the bright sunshine, the sharp invigorating air and the little snow that covered the ground, no doubt, helping to make us both feel the joy of living, while the troop of boys and girls with old Collie, were having the time of their lives.

And is there a better day's sport even for the older folks, than the varied episodes that young people enjoy on field, pond and hillside, winding up at blindman's buff around the cosy corners of the warm rooms of a farmer's fireside at Christmas time!

"I agree with you, George," I assented, "that the manufacturer is always on his job. He believes in his business and pushes it generally for all it is worth."

"Yes, you bet he does," emphasized friend Powers, as he jumped over the worm fence on our way back the lane.

"Take the Reciprocity fight, how he left his party and fought to keep the duties on! Why can't we farmers hang together the same way? We have the biggest business in the country, and if we, in Ontario, would link up with the United Grain Companies in Western Canada, we would swing things like North Dakota did a few weeks ago."

A little cheap gasoline engine attached to a pump solves many a water problem.

MARKETING IS OUR BIG PROBLEM.

"That's just it! We farmers are not the business men we should be. Our problems are increasing, the marketing of our products is most important, and the making of laws for the encouragement of agricultural living should be discussed by all of us, in our local organizations. I believe the thing is coming. The United Farmers of Ontario are getting quite a power now. But what's this?"

Before us an opening in the tree line showed us a big creek rushing merrily along despite the zero weather of the past week.

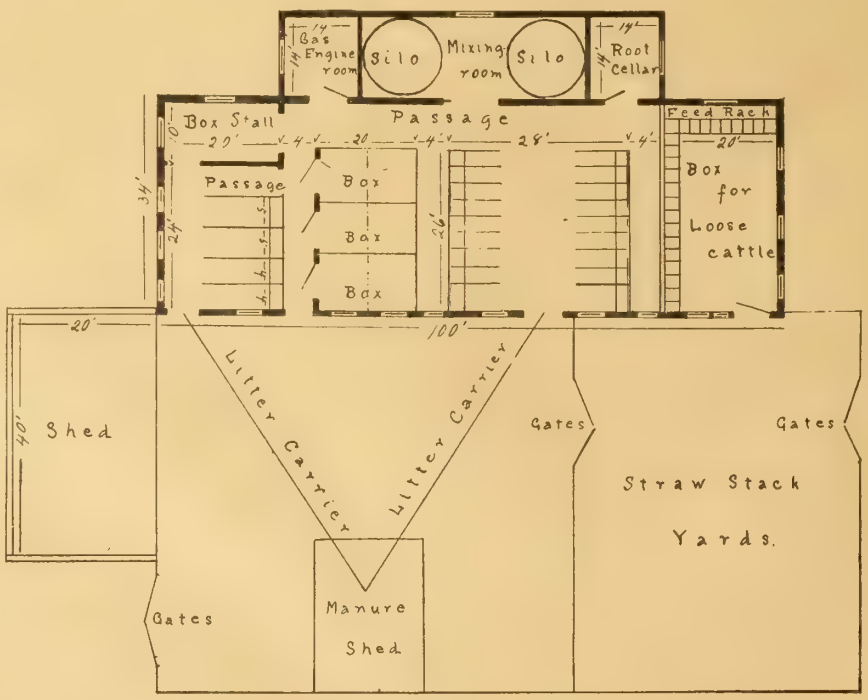
"Isn't that a big asset to my place?" said George.

"An asset? What have you done to capitalize for yourself this power running to waste?"

"Why, it waters my stock in the summer, and I tell you it is great to have a running creek on your farm!"

"Undoubtedly, but you are enjoying no more than the Indian did. Of what use to you besides this is all this water and power? Why not pipe it to the barns and house by installing a ram here. Then you would get more practical benefit from it the other six months of the year.

"Now you could reach your barns at 20 rods from the nearest corner and a ram could easily raise the water to that elevation. Put a storage tank in the barn and pipe it to the stables, underneath. Or, egad, I believe this stream is big enough to give you electric power, which



The plan of the rebuilt Woodmere barn, equipped for convenience, sanitation and profit. George can feed a carload of cattle, a flock of lambs, as well as carry the ordinary farm stock. Feed carriers carry the feed to the loose stall as well as to other mangers. Sheep occupy the shed.

would run all your farm machinery and tickle your good wife to pieces to see the washing and churning done by it and to have a vacuum cleaner, and electric lights in the house.

"If you could get a race back yonder and bring down the water to the depression you could get a fall, I should think, of about 10 feet into a turbine water wheel that would deliver all your power requirements. But a simple ram, costing a mere trifle, with the 20 rods of pipe would furnish your metal or cement tank set in one corner of the barn, with a constant supply."

"I believe I could remodel my barns quite easily," said George getting interested.

REMODELLING IDEAS.

"Sure enough! You have the frames sound and good, a fine location and plenty of sand and gravel of the best kind in this creek flat for concrete work right at hand. Suppose you turn the west barn even with the north one and set them both up on a cement foundation. You would then have a barn 100 feet long by 34 feet wide, under which you could arrange a mighty convenient stabling for all your needs in the livestock line, with the possible exception of sheep, which you could house in a shed at one side by moving up that old drive shed."

I could see that friend Powers was getting interested in the scheme as I continued to speculate on his barn re-building by drawing diagrams in the snow with my cane.

"You see, you have three fine boys coming on and they would get an education and greatly assist you in the work. It would add interest to agriculture for them, and by giving each one a particular branch of the livestock work to look after, your own duties would lighten and your fortunes increase."

"Yes, but the installation of cement and iron fittings throughout with your new-fangled litter and feed carriers, new horse stalls, ventilators, stanchions and water piping would cost a fortune," dissented George.

"Not too large. Do the work yourselves next summer. The makers of these goods issue blueprints for one's guidance, and cement work is not hard to do. You, with your boys and the hired man, could arrange to pasture 20 acres more and devote the extra time to this work. In fact you could instal nearly all the tubing in the stables and the piping for the water. The bowls are easily put in place and the litter carrier arrangements do not get out of order very easily. I did a large part of the cement flooring work in my own stable.

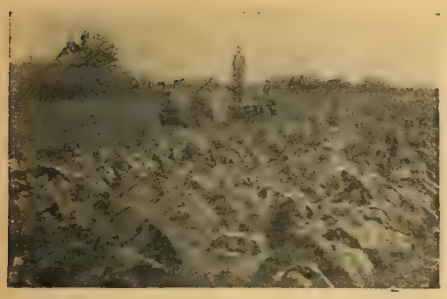
"You could arrange the plan so that there would be plenty of light over the whole stable and the various pens easy of access from the outside. You will note that I can place 8 small box stalls besides the big loose one for feeding a carload of cattle. The horses would be shut off entirely from the rest of the stable if you like."

"That is a fetching plan and I'm half-inclined to take your advice. These manufacturers may be selling their goods to get rich, but I can see that anything that will help me to make more money out of my stock and feed, is part of an equipment I should have to that end."

And George Powers, slow to enthuse, was sure to execute what he conceived was a right move. I could see by his buoyant manner the rest of our holiday on Woodmere farm that he had a vision for the building up of the old place that was going to interest the boys as well. The good old farm house saw a jolly crowd gather in for the big homey supper, around which boys and girls, older folk, the Collie dog and the big yellow cat were all a congenial company.

And after all can you beat a farm Xmas for real hospitality!

Greater Production in Canada



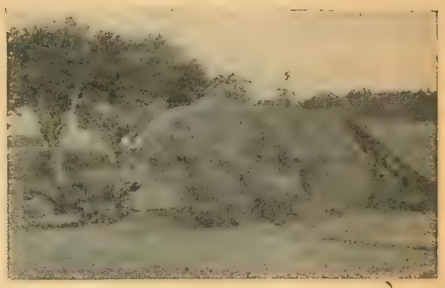
An Ontario intensive farm scene in the north-west.

A SOLDIER in the trenches writes the FARMER'S MAGAZINE editor, to advise all the production possible this year, "for," says he, "we are fighting a winning fight and more food will insure the victory."

And every farmer feels that he should do all he can. The governments are trying to assist in many ways. Perhaps some of the schemes will fall flat, but let us all have only sympathetic criticisms. The school boys and business men on their vacation may not solve many real difficulties, but the associations and renewals of acquaintanceship with real agricultural problems cannot but work out for the better understanding of this basic industry. Patience and forbearance on both sides are essential.

Many people from the city are going out to help on the farms during the summer. No doubt, there will be many things that these people, unless they are farm-

A big stone house on the prairies south of Alameda, Sask., owned by John Deyell.



In France they have organized for production through their co-operative societies and buy tractors to do the work.

born, will find new to them. Likewise, many of the many things the farmer has to put up with, will be impressed upon the visitors. Liberal doses of common sense used on both sides will result in much good.

We believe, that the aims of the Provincial Government are to help by suggestions that tend to get better results from the work we do. Anything that will give to farmers more returns for his labor, will be a benefit for after-the-war days.

A view of Vancouver Island rich in possibilities. A smiling Providence will ensure a big return from Canada's wide-flung fields this year.

God's Green Country

A Tale of the Ups and Downs of Country Life

By ETHEL M. CHAPMAN

CHAPTER VIII.—*Continued.*

RUTH said she would come; somehow people always expected that when they went to her for help. Besides, it was part of her professional work. She spent some days consulting with dealers in household equipment from bath-tubs to wash-boards, and finally got together a collection to fit the needs of any ordinary farm-house. The evening before the day of the demonstration she followed her shipment out to the farm, partly because the work ahead of her would require the thrifty precaution known in country lore as "taking the morning by the forelock," partly because she wanted to feel again the spell of the moonlight flooding into the room, and the night stirred so little by a breath among the leaves and the distant gurgle of the creek, that she could hardly sleep for the stillness.

She awakened early next morning, to the sound of carefully handled dishes in the kitchen, and the drone of a cream separator in some distant annex of the house. The early October sun was flooding the mists from the fields; a scattered drove of young cattle on the crown of a hill moved like black silhouettes against the blaze. A tingling buoyancy came from looking out over miles of open country and breathing long, dizzy breaths of autumn-scented air, while down in the city the great human herd still slept, catching whatever faint little whiffs drifted in between brick walls. Field after field bristling with yellow stubble told of a harvest gathered in, but the orchards were still heavy with apples, their bright red glowing through a glittering coat of the night's frost. Here and there a corduroy of black furrows showed where the farmer was already taking thought for next spring's sowing. Everywhere there was evidence of productive work completed and the urgent call of other work to do; to the born farmer there could be no monotony in the changing seasons. Every morning in town she saw swarms of workers like herself return to their day labors like bees to a hive, each passing mechanically to its own little cell pigeon-holed somewhere in the make-up of an office building.

She had sometimes thought the lives of women in the country narrow and drab-visioned, but here in the kitchen the farm mother was singing quietly to herself as she cooked her family's breakfast. She was no mechanical cog in the machinery of the place; she planned and directed and created every day. Under the window her dahlias were blooming gloriously. In the orchard a flock of her turkeys were getting ready for the Thanksgiving market. Overhead was coming the soft thud of her baby's bare feet on the stairs. On a hill off among the pines a red maple flamed at the door of a crumbling house—an ideal site for a Swiss chalet Billy had called it one day when his enthusiasm had run away with his reserve — and she thought wretchedly of her office with its soft red rug, and its one gloomy window, and of her uncle's luxurious house where hired experts held the sole privilege of ministering to the family comfort.

However, she had a clear field for working out her own ideas to-day. The house was a roomy, old-fashioned, hospitable place which had made a home for two generations and might yet be the pride of a third. The family had spent a good deal of money in redecorating and refurnishing it as fashions changed or things wore out, and when the stream from the hill was harnessed to furnish power for every machine in the barn, the house was trigged out with a dazzling array of electric lights. Apart from this, the returning ghost of a great grandfather would not have noticed anything new enough to arouse his curiosity. One look into the barn with its whirring motors, and general hum of activity — everything from the grindstone to the grain chopper turning without a crank and all going at once, would have sent the apparition scurrying back to more primitive quarters.

Some of the women excursionists at the farm that afternoon seemed to be possessed of the same instinct. They clutched at their children when they saw them getting within reach of the electric washer. A few were even afraid to touch it themselves for fear of a shock. When it was suggested that where electricity was not available any ordinary washer could be driven by a little portable gasoline engine about the size of a lawn mower, they immediately had a presentiment of being caught in the belt. The simplest arrangement demonstrated was the connecting of a water-power machine to the tap in the kitchen sink, but half of the houses in the neighborhood didn't have kitchen sinks or any water supply other than a pump in the back yard and a rain barrel under the eaves.

The women unanimously agreed that what they wanted most was running water in the house. With a set of little models the girl showed how this could begin with a soft water cistern and a pump plying into a kitchen sink. The next improvement would be a water front on the kitchen range and a hot water faucet, and these would lead directly to a complete bath-room. Even without electricity or any other form of power, a hand force-pump in the cellar could give a water supply for a bath-rom.

A genuine interest was kindled when the people began to handle the equipment themselves. The men were not the least interested; those to whom a vacuum cleaner was a new piece of machinery investigated its mechanism with the enthusiasm of a boy with a new engine. They began to realize why the family doctor sometimes condemned the straining, twisting motion that goes with sweeping, even though their mothers had lived long and used brooms. Those of a mechanical bent took up the toy dumb-waiter with interest; they didn't resent being told that every time a woman took a step up in climbing a stair she had to actually lift her own weight—a waste of energy which they overcame in their own work by fitting their barns with feed-chutes and litter-carriers. They even listened with some show of interest to the fact that most of the tuberculosis in the country was due to such poor methods of heating the houses that the windows of sleeping rooms must be kept closed all winter to keep from freezing, and they discussed costs and advantages of hot air and steam heating systems. Women took up the electric iron, gingerly at first, then freely to test the speed and ease of pressing out clothes with an iron always hot and clean —without fires to keep up, or constant trips to and from the stove. One weary little mother had eyes for nothing but the kiddie-koop, a little screened box on wheels where her baby could play safe and happy always near her, but out of her way, while she cooked meals for a raft of tired men.

After a general discussion, they planned a simple and practical equipment for an average farm house. Then they estimated the cost, and the practicability of the whole scheme began to waver. In view of the yearly income derived from the average farm, most of the men decided that no farmer could afford to put so much money into an unproductive investment. Their wives generally agreed with them. The farm mortgage is as much a nightmare to a woman as it is to her husband; she is willing to wait for everything until the place is clear, and the most of her life has gone; then, if they still want it, they can afford a most comfortable home to die in. Many parents argued that they had to look ahead if they were going to give their boys a start on farms of their own, but those of wider vision believe that the whole scheme of family life falls down if the home suffers; that it does not pay to build the farm up into a profitable property which is despised by the very children for whom they are giving their lives. Even the most doubtful showed some amusement at the announcement that every essential convenience could be installed in an ordinary farm house for less than the cost of a farm car—and even the poorest of them owned a car.

Late in the afternoon Marjorie Evison and her mother called, as they had promised. For the sake of Mr. Evison's business they made it a matter of principle to patronize all agricultural movements. They had never known the need of things that were novelties in most farm homes and could not just grasp the significance of the array of washing-machines, mops and what not strewn about the big kitchen, but they had time to talk to Ruth for a few minutes—to regret that they couldn't entertain her at tea as they were due at a corn roast at the Country Club—and they congratulated Billy on the originality of the idea and hoped they would see more of him now.

Billy had planned to find a spare hour during the day and to take Marjorie up to the place on the hill. It was very beautiful now with the maples turning crimson and the sleepy countryside for miles below basking in the sun, making a picture blurred and softened through the purple haze. He wanted to search her face when she saw the wonder and promise of it all for the first time—to try to learn whether it would ever be possible to make her like it. But somehow things

Continued on page 25.

A Farm House, Plain But Individual

Just Ordinary Stonework Gives An Air of Permanence and Dignity

By GENEVIEVE

A COMBINATION of stone and frame, or stone and shingles, can be worked into a most attractive farm house, and where the stone is available on the farm, the materials will be comparatively inexpensive. Where it is not easy to get stone, or where for any reason it is desirable to use brick, the style of house illustrated here could be carried out effectively in a combination of brick and shingles. Yellow brick, with buff or brown-painted shingles and brown roof would look well.

The simple architectural style makes the house decidedly cosy and homelike in appearance. The roof could be raised a little to give more headroom upstairs, without destroying the quaint bungalow lines. The heavy porch columns of stone masonry add to the substantial appearance, while the grouped windows give an air of sunniness. Altogether the place looks like a most livable, permanent home.

The interior is planned to save space, and to give a compact arrangement of rooms naturally related to each other. The front door opens into an entry, the main purpose of which is to give privacy to the stairway, that is, to make it possible to pass from the kitchen to the stairs through either the living-room or dining-room without going through both rooms. This almost entirely does away with the need of a back stairs, and no space is wasted in a hall. Having the living-room built right out even with the porch, allows more floor space to be covered by the same area of roof, than if the porch ran across the entire front, and leaves a room large enough to accommodate the needs of almost any farm family. It is important in building a country home to provide some place where little social gatherings of friends can be entertained. The fireplace and the ample window space in this room make it a most cheerful place for the family to spend their leisure hours together.

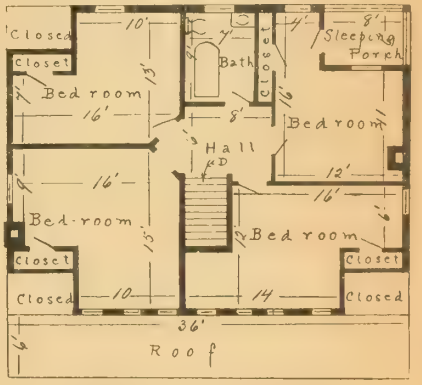
The office or den opens from the living-room, and also from the kitchen, an arrangement which insures its being used a great deal. This room might be used as a bedroom, but we believe that the office is one of the essential features of a complete farm house,

The substantial appearance comes from the rough stone masonry while the grouped windows gives an air of sunniness.

The working part of the house is well arranged for the convenience of the housekeeper. It is next to the dining-room, and has no pantry; with the wash-room to take the dirty work out of the kitchen leaving it almost entirely free for culinary work, and the dumb-waiter to bring food from the cellar, a pantry is unnecessary. A deep built-in cupboard and a closet for brooms, mops and other kitchen tools and cleaning materials add to the convenience of the kitchen, and the book shelves built on the other side of the wall, fill in the space in the office without cutting up the room. The back porch is another help to the housekeeper, both as a place where she can take some of her work in hot weather, and as a protection for the kitchen floor in muddy season. The wash-room besides serving as a laundry, provides a convenient place for the men to wash, leaving the kitchen sink free for housework purposes.

In planning the layout of the second floor the low roof gives some difficulty in getting sufficient head-room. The wide dormer at both the front and back relieve this a great deal, and by leaving the lower part of the corners closed, and putting in the clothes closets where the head-room is still too low to be of much use in the main room, we have four good-sized bedrooms, one with a sleeping porch. The bathroom being just over the kitchen gives a compact plumbing system. No unnecessary space is wasted in hall-room, by running the doors of two of the rooms across the corners a space only six by eight feet is required for a landing at the top of the stairs.

Ground floor plan.



Layout of rooms upstairs.

My Mother's Garden

By MARY CAROLINE DAVIES.

Sweet alyssum, mignonette,
Phlox and lavender,
Baby pansies happy yet
With the thought of her;

White petunias, asters tall,
Hollyhocks a-row
Sunning by the garden wall,
Pinks and morning-glow;

Purple canterbury bells
Stiff with pomp and pride,
Love-lies-bleeding, marigold,
Rose and morning-bride;

Frangrant honey-suckle vines
Flowering where they stand
Tendrils trembling as if still
Swaying from her hand;

Lovingly they look for her,
Wistfully they await;
But the grass is overgrown
At the garden gate—

—In the Craftsman

Wm. Lloyd Garrison, Agitator

The Story of William Lloyd Garrison, Agitator and Abolitionist, Joins Cause With a Quaker

By W. C. GOOD

This article by the writer will be read because of the writer's own views on economic matters, as often expressed before the various farmers' organizations in Ontario. He is vice-president of the U.F.O. and farms in Brant Co.
—Editor.

THE average man is instinctively conservative and society regards with persistent but irrational aversion anyone who does not bow to its demands and accept its standards. The "safe" man, who can be counted upon to suppress his own opinions and obey his leaders is the one who secures political nomination and election. Similarly, he who preaches theological orthodoxy with the most potently soporific persuasiveness secures ecclesiastical preferment. Teachers, too, must teach the truth as the majority apprehend it, or they invite dismissal. So, also, men and women in all walks of life must incur many risks if they venture to dispute accepted opinion.

From the point of view of that progress which mankind has already attained, this *conserving* instinct is wholesome; but from the point of view of that which is yet to be attained it is a dangerous impediment. For all progress comes first by the rebellion and protest of the few. Every reform must first be championed by a minority. New ideas must be forced to the front, and make their way by conflict, and against strong opposition, before they are accepted by society as a whole. Once accepted, however, they are clung to and preserved with the same instinctive devotion which in the beginning was employed to destroy them. Fortunately there is in humanity a fund of latent moral force and mental power which responds to all true appeals, so that no Elijah need despair of the nation's being wholly given over to the worship of Baal.

Nowhere are these truths more forcibly exemplified than in the life and work of William Lloyd Garrison, chief agitator in the American Anti-slavery Movement, a movement which had its political culmination in the American War of Secession. There was a time when the slave power threatened to dominate the whole Union. Garrison and his colleagues, however, had aroused the national conscience, and the power of slavery was destroyed, though it required the sacrifice of many lives to do it. Who knows but that, without Garrison, things would have been far otherwise, and we should have had, as our southern neighbor, a nation dominated by the ideals, the institutions and the power of slavery? Who knows?

That fight, however, was fought and won. But the fight for freedom is a perennial one. Eternal vigilance is the price of liberty. Slavery still exists among us, for where there is social injustice, there is a form of slavery. The rich idler still exists and is ministered unto by an army of toilers who receive but a fraction of their earnings. The many sow and the few reap.

A STUDY WORTH WHILE

The history of Garrison, therefore, is one of perennial interest, and will bear reviewing at this point.

Born in 1805, in Newburyport, Mass., Garrison was left in care of his mother, a pious woman, at the age of three. His schooling was of the scantiest. Before he was nine he had to go to work to earn his living. At nine years he was apprenticed to a shoemaker, and subsequently to a cabinet maker at Haverhill. Running away from his master, he was again apprenticed to a printer in Newburyport, at the age of thirteen. He liked his work and became very skilful in the handling of type, and he was soon promoted. His mother, whose health had been failing for some years, died in 1823.

Garrison possessed no little native literary ability and as a printer had some opportunity for gratifying his taste. He read widely and took a keen interest in politics. At the age of twenty-one he became editor and proprietor of the *Herald*, which he re-christened the *Free Press*. Whittier's first poems were published in the *Free Press*. Garrison was of an independent turn, and, after thus losing subscribers, he sold his paper and went to Boston in search of employment. After some time he secured the editorship of the *National Philanthropist*, in the second number of which, in commenting upon a bill passed by the Assembly of South Carolina forbidding the teaching of blacks to read and write, Garrison uses the following significant language:—

> "There is something unspeakably pitiable and alarming in the state of that society where it is deemed necessary for self-preservation to seal up the mind and the intellect of man to brutal incapacity. We shall not now consider the policy of this resolve, but it illustrates the terrors of slavery in a manner as eloquent and affecting as imagination can conceive.....this state of things cannot always last, nor ignorance alone shield us from destruction."

These words, written in 1828, herald a new period in Garrison's life.

Garrison had his forerunners, chief of whom was Benjamin Lundy, a Quaker. Lundy brought out a journal of his own, called the *Genius of Universal Emancipation*, without a dollar of capital and with only six subscribers. For some time he walked twenty miles each month to get it printed, and distributed it personally in several States. Finally he came to Boston, made the acquaintance of Garrison, and fired the latter's heart.

JOINS CAUSE WITH QUAKER.

Garrison's association with Lundy and his own reflections upon the slave problem soon brought him to the conclusion that immediate emancipation was the only solid ground upon which he could consistently take his stand. Henceforth, therefore, slavery was utterly wrong and sinful, and Garrison never afterwards hesitated to make unqualified avowal of the uttermost truth. Shortly afterwards he entered into partnership with Lundy and both moved to Baltimore, then a noted centre of slavery. Here they jointly published Lundy's paper, and denounced in scathing terms the cruelties and horrors of slavery. It was not long before Garrison was prosecuted for libel, and found guilty. Not being able to pay the fine he went to gaol with great cheerfulness and employed his time in studying the prisoners and in writing. Ultimately his fine was paid by a friend, and Garrison was again at liberty. The paper, however, had languished during his imprisonment, and the partnership came to an end.

In 1830, at the age of twenty-five, Garrison went back to Massachusetts, and began lecturing for the cause. Here, however, he had the most discouraging experience. *The churches were closed against him, and he had to accept the invitation of a society of avowed infidels in order to get a place in which to hold his meetings.* But he succeeded in enlisting the sympathy and active support of S. J. May, S. E. Sewall and A Bronson Alcott, the former of whom has recorded his impressions as follows:—

> "Never before was I so affected by the speech of a man. When he had ceased speaking I said to those around me: 'That is a providential man; he is a prophet: he will shake our nation to the centre, but he will shake slavery out of it. Come let us go and give our hands.'"

Garrison had made up his mind to establish an anti-slavery journal, and on January 1, 1831, brought out the first number of the *Liberator*, with the motto, "Our Country is the World, Our Countrymen are Mankind." An old friend, Isaac Knapp, joined him in the enterprise, and these two did all the work of publication between them, enduring hardship, penury and discouragement.

Slavery was then dominant. Supported by Church and State, it became strong in its evil convictions and suppressed any

Continued on page 37.

John R. Dargavel, M.L.A.
Chairman of the Agricultural Committee in the Ontario Legislature. Mr. Dargavel has been prominently identified with Eastern Ontario agriculture, particularly along dairy lines.

What Home Improvements Do We Need Most?

Farmers and Farmers' Wives Tell What They Consider Most Necessary

IN reply to a questionnaire sent out by the United States Department of Agriculture to several thousand farm families, asking what conveniences and labor savers for farm homes were most wanted by the women themselves, the following are a few of the opinions sent in. While the questionnaire was directed to farmers' wives, about half the replies come from the men. In either case they carry a live interest, being the views of people who speak directly from experience.

FROM WOMEN'S VIEW POINTS

"There is a need of popularizing home conveniences, farm wives' clubs, and reading circles. A piano, an auto, one completely equipped house in a neighborhood is an entering wedge. And blessed be the auto! I know families who have emerged from the chrysalis to a dignified butterfly state of thought and action through its benefactions.

"So many of us are cooking on the same old stoves we first began housekeeping with; still rub our clothes on the washboard on wash day; use the same home-made tables, benches, and beds we have always had to keep house with. The men around us have bought automobiles, mowers, rakes, hay racks, and new patent stackers, sulky plows and harrows, cultivators and wagons, and in fact whenever they see something that will lighten their labors they immediately write a cheque and lo! it is their's.

"A great many of these things our men buy are used but a short time during each year, but give the women ranges, kitchen cabinets, linoleum-covered or hardwood floors, sanitary walls and wall covering, washing machines, iron bedsteads, good water, and things of use and a comfort to every member of the family every day in the year, and very few of the things are any more expensive than the price of a sulky plow."

"There should be education in the farm home on money matters. The wife should know how much she can have for expenditures and be able to use this intelligently. For instance, $10 spent for a gasoline lamp last winter was considered quite an expenditure, almost an extravagance, while $10 or more spent for a plow would be considered a matter of great economy."

"We need a lawn mower so constructed that a woman can operate it. Since labor is hard to get, the women folks are obliged to do work of men."

"A concrete walk from the barn to the kitchen door and a poultry fence about the dooryard will make such a difference in the dirt the wife will have to shovel out and the number of flies which haunt the house. Round corners to sweep easily, crack fillers, hard finish for walls, stationary cupboards, and dropless shelf-like tables, all up off the floor for ease in sweeping the kitchen.

"A carpet sweeper does not do the work of a vacuum cleaner, but I wish every woman who hasn't one would get one for Christmas. And I do believe that just as soon (or a little before, maybe, for a man often goes in debt for his tools) as one can afford these conveniences about the home they should be put in.

"Dumbwaiters (containing shelves) lifted by weights. Iceless refrigerators. I think these could be made in the dumbwaiter plan, too.''

"When men come in from work they are tired, hungry and dirty. If they had a large bath (shower) of warm water and washed down quickly in three minutes they would be refreshed."

A kitchen like this makes housework a delight.

"Waste water flows over the canyon wall at many points in quantity sufficient to furnish power for heating and lighting our buildings and running our machinery with electricity, if only a plant could be installed. A power line passes through the district, but until a considerable number of us have attained a degree of prosperity (at present somewhat remote) so that we can meet the heavy charge which the power company makes we must continue to burn sagebrush (and some of us must chop it) and kerosene."

WHAT MEN THINK ABOUT HOME CONVENIENCES

"Farm houses and also most homes in the small villages are not equipped as they should be. As it is now, the homes in the larger cities are too inviting for the country folks, especially the younger people. If those differences in homes could be eliminated, it is believed that most of the people with knowledge of the situation would prefer country life to city life."

"The gasoline engine is so near perfect and so cheap there is no excuse for the housewife being required to run the washer and some other work by hand, but she should have some power to do her work."

"A good food grinder is an important article in the house. It will save the price in one butchering by grinding the lard before rendering."

"The principal cry with our country housewives is some means of lessening the continual grind necessary on the average farm, such as, first, the housekeeping proposition, which is usually done with an ordinary hand broom; second, the present methods of handling butter and milk and getting it to market; third, the laundry and ironing proposition, as done by most women, by hand mostly. The heating and lighting of their homes mean a great deal of care on a woman. We have nearly all kinds of machinery to simplify and make housework easier.

"A self-heating flat-iron should be in every home; gasoline or electricity. Every home should have a vacuum cleaner instead of brooms and dust rag. Brooms are dust distributors and make work dusting things off afterwards. A farmer will buy an automobile for $1,200 or $1,500 to keep the boys on the farm. How much will he spend to keep the girls on the farm? He will buy a riding cultivator with shade attachment for the hot day. Will he buy a self-heating flat-iron for his women folks in case of a hot day? Will the farmer invest $5 in a fireless cooker for his wife so she can go along, too, and have dinner cooked when they get back? He will install a little carrier in his barn to save steps and time. About how much will he spend to save steps for the women in the house?

FARM STORIES WANTED

What is the best move you ever made on your farm to increase your yields?

What is the best combination of interests on a small farm to assure the owner of a decent yearly profit?

Write plainly on one side of the sheet, stating facts and figures where possible. A photograph would add much to the effectiveness of the story. Make story not over 500 words.

Prizes of $5 for 1st, $3 for 2nd, and $2 for 3rd best articles received on either of these subjects. Articles to be mailed before May 1st. Address Editor, FARMER'S MAGAZINE, 143 University Ave., Toronto, Can.

Power Miracles in Ontario Farm Homes

Systems in Actual Use And Giving Satisfaction

THE use of power in the farm home is no longer the dream of an idealist. With gasoline and electricity coming into more general use for farm work, there seems no good reason why the majority of farm homes should not have every practical convenience of the city house; and when you get city conveniences installed in a country house with its additional advantages of space and air and sun, you have a place worth living in. A few of the systems in actual use on Canadian farms illustrate what can be done at reasonable cost.

As soon as electricity came within reach of a certain farm in York county, Ontario, the house was wired and arrangements made to use the current for power as well as for light. The first step was to fit up a laundry in the basement. The entire basement was cement-lined and when the laundry-room was whitewashed it was as light as any room above ground. An old cook-stove was put in to heat water for boiling the clothes, while both hot and cold water from the regular supply was piped down to stationary tubs. An electric washer with wringer worked by the same motor was bought for $75. This is placed directly over a drain so there is no work in emptying the machine.

The electric iron can be used in either the laundry or the kitchen, that is, it can be heated from any of the light sockets. Wherever a house has electric light, an electric iron is a most economical investment. It is usually cheaper than an ordinary iron from the fuel standpoint; and it cuts out the most wearisome part of the work, the attending to fires, the heat from the fire in warm weather, the trips to and from the stove, the difficulty of keeping the iron at a constant temperature. A combination sweeper and vacuum cleaner is another of the valuable labor savers in this house.

Electricity even does a great deal of the cooking. A one-cover cooker will toast, or cook anything that could be cooked on one burner. It has an aluminum plate which can be used to fry bacon and eggs, or turned over and used for a pancake griddle. On a neighboring farm an electric stove of the fireless-cooker type does the cooking for a family of five at a cost of sixty cents a month for electricity. The farmer who hesitates to instal electric equipment in the house through fear of the running cost, may be surprised to know that the equipment we have described in a house with a family of five, does the lighting, washing, ironing, "vacuum cleaning," and part of the cooking for $2.50 a month.

The first requisites of a convenient farm home, running water and a bathroom, are supplied here by the Kewanee system—a small gasoline engine in the cellar pumps water and air at the same time into two compression tanks, one for hard and one for soft water. The gasoline engine had been installed before electric power was available, otherwise electricity would have been used to supply power for pumping.

An interesting water system run entirely by gravity is working in a farm home in Ontario county. A cistern draining the water from the roof of the barn supplies the bathroom with soft water. The level of this cistern is sufficiently high that the water is forced to the top of the house by gravity. Should the cistern go dry, water from the mill-race, which is also above the level of the house, is ready to supply the bathroom and kitchen. Water for drinking comes from a spring on the lawn. The two lines of pipe from the race and the cistern, are connected in the cellar, and it is only necessary to open or close a valve to tap either pipe.

In providing for heating this house the owner put in a hot water system, by which the temperature can be regulated almost to a degree, but the fact was not overlooked that a hot water system makes no provision for ventilation, and that no heating system is proof against accidents.

Continued on page 20.

A Farm House Interior

Decorating and Furnishing for Comfort, Beauty and Permanence

By ETHYL MUNRO

THE THREE essentials in decorating and furnishing a farm house might be defined as Comfort, Beauty and Durability. The idea of comfort implies a restfulness in the whole decorative scheme as well as in the furnishings; the beauty is governed by a fine sense of simplicity and suitability; and durability means the quality in effects which will not become wearisome, as well as materials that will wear. Fortunately, too, the most durable materials are usually the most sanitary.

An attractive use of chintz in dining-room curtains.

SELECTION OF WALL COLORS

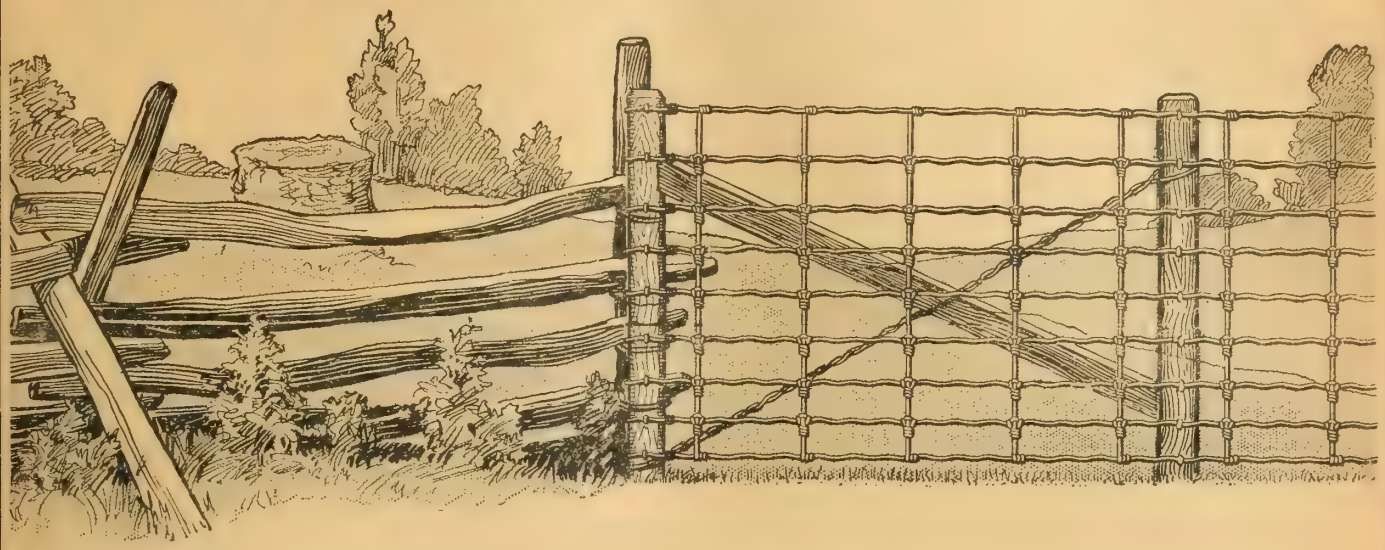
About the first matter to be considered is the selection of colors. Few general rules can be laid down as to the treatment of walls and ceilings, but one general rule that should be followed in all interior decoration is to have the color scheme built up from the foundation. The floor or rugs carry the deepest color note with the walls next lighter in tone, and the lightest color in the ceiling.

If a charming and restful living room is desired, the walls will act simply as a background, and a plain or nearly plain paper or finish will be chosen, brightened up possibly by a decorative frieze or border. As the living-room will be used in the evening as well as in the day-time, the color should be not only one to which the artificial light is becoming, but one which does not absorb

Continued on page 21.

Two charming corners showing individuality in wall treatment.

Let FROST FENCE Replace Your Rail Fences



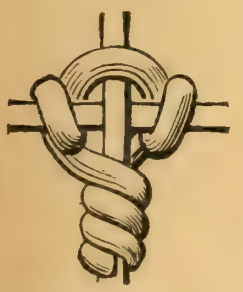
EVEN yet, one sees a great many old rail fences throughout the country.

These old-style "snake" fences right at the present time use up hundreds and hundreds of acres of ground, which might otherwise be put to good use.

JUST examine carefully the above picture, and do you not wonder how it is possible that these rail fences are still throughout the country, when neat, land-saving and substantial wire fences can be erected for such a reasonable amount. If, on your farm, you have any fields not fenced in the improved way, will you not consider seriously the question of putting up a nice wire fence?

FROST FENCE FIRST

YOU will notice the illustration of the FROST HOLD-TIGHT LOCK. This is the binding or lock used where stay wires cross laterals. This lock is much superior to any other woven fence lock, and holds securely without kinking the lateral of running wire, thus weakening it. There is only a slight kink in the stay wire, and the general appearance is as neat as could possibly be wished for.



The FROST "Hold-tight lock"

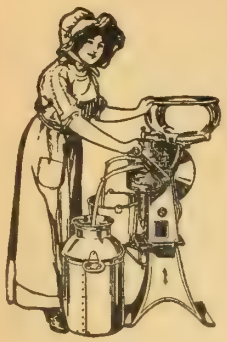
If you have not examined this lock closely, we will be very glad to send you sample, so that you may put it to some good hard tests.

FROST FENCE is all completely made in our own mills. We are responsible for it from beginning to end, and when we tell you that there is quality in the wire and the workmanship we are entirely responsible.

You will find a made-up fence just as neat in appearance as shown in the above illustration, and the lasting qualities are there also, in fact, FROST FENCE will stand wear and tear that would rip other makes to pieces.

We have a full line, not only of woven wire fences, but all wire products, as well as farm gates and ornamental gates; also fancy fences made from woven wire or angle iron. If you do not know a nearby agent, kindly get in touch with us direct.

Frost Steel and Wire Co., Limited, Hamilton, Canada



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The first belt driven, the first steam turbine driven, the first of every kind of hand turnable, the first disc bowl, the first blade bowl, the first bottom or suction feed, the first split-wing feed, the first feed-through-the-discs, the first self-centering bowl, the first automatically oiled—all these and a hundred other features of separator development and improvement have been conceived by De Laval inventors and perfected by the De Laval Company, most of them to be cast aside for something still better in the ever onward advance of De Laval construction.

The New 1917 De Laval

And now, in the De Laval machines for 1917, a number of new and still further improvements have been made, which make the De Laval machines of to-day much better in many respects than they have ever been before.

Their capacities are greater per dollar of cost; they skim cleaner under the more difficult conditions of separator use; they are equipped with the most improved speed regulator, thus insuring the proper speed necessary for complete separation; they are even better lubricated, and the bowl construction is even more sanitary than ever.

In other words, superior as the De Laval Machines have always been to all would-be competitors and utilizers of abandoned De Leval features, the De Laval machines of 1917 are improved and superior in every way to all previous types and models of De Laval construction.

All these improvements and new features are described and explained in the new 1917 De Laval catalog now ready for mailing, but some of them are difficult to describe and make fully understood by words.

Be Sure and See a New De Laval

The new De Laval machines themselves best explain their new and superior features, and their use does this more completely and convincingly than even an examination of them. Every local agent is glad to afford opportunity for examination, and better still, for home test of a new De Laval machine

But the demand for the new machines is a month ahead of the possible supply under the present difficult conditions of manufacture and freight distribution. More De Laval machines by half have been made in 1917 than ever before, but the De Laval Works is now ten thousand machines behind actual orders, and the demand is ever increasing.

Hence, the importance of securing a machine quickly if your local dealer happens to have one, and of ordering well ahead if he does not. And likewise, the importance of waiting patiently a little for a machine if need be.

A new De Laval catalog will be gladly sent on request, and if you don't know your nearest local agent, please simply address the nearest De Laval main office as below

THE DE LAVAL COMPANY, Ltd.

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA.
Sole manufacturers in Canada of the famous De Laval Cream Separators and Ideal Green Feed Silos. Alpha Gas Engines, Alpha Churns and Buttermakers. Catalogues of any of our lines mailed upon request.

MONTREAL PETERBORO WINNIPEG VANCOUVER
50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER.

Power Miracles in Ontario Farm Homes

Continued from page 18.

Thimbles have been put in the chimneys so that in an emergency stoves could be used, and fireplaces in the parlor and dining room give an efficient system of ventilation, as well as the charm of an open fire.

To get electricity for lighting the house, doing the ironing and running the vacuum cleaner, the water dammed back to turn the wheel of a mill on the place is used to run a dynamo. A laundry is fitted up in the dairy building close to the house. A steam engine is used here to run the churn and butter-worker, an excellent arrangement since the engine that supplies power, at the same time heats a supply of water for washing dairy utensils, scrubbing out the room, and for the work in the laundry.

Another farmer in Halton County, whose only natural resource for power for his farm was a spring on a hill, evolved an efficient system with very little expense. The farm runs up against a limestone and mountain whose springs evidently never fail. These were dammed up and from this pond four-inch pipe was laid to carry water for developing the power, at the same time affording a supply for the house, the stock, and for watering the garden. The elevation of the spring gives a drop of about one hundred and fifteen feet or fifty pounds pressure. Nearly one thousand feet of pipe was laid, and the cost of installation was $200 for piping and $85 for the wheel.

While this water power does most of its work at the barn, operating everything from the grindstone to the straw-cutter, it has materially lightened the work in the house. In the back kitchen is a small water-wheel developing about one horse-power. A small shaft connected with this wheel is equipped with pulleys for running the washer, wringer and churn; the meat chopper can be connected directly with this shaft as it must have considerable power and yet run slowly. A good feature about the washer is that the power is thrown off or on automatically by raising or lowering the lid, without touching the belt, while the difficulty of getting rid of the waste water has been overcome by boring a hole in the bottom of the machine and fitting it with a rubber plug, then placing this outlet directly over the drain. With this arrangement it is not necessary to lift and tip the machine, as must be done where the outlet is at the side of the tub.

Besides supplying power for machinery both in the house and barn, the pipe from the spring carries an abundant supply of water for the stock and for watering the lawn and garden. A hose may be attached at either the house or barn and it is only the work of a few minutes to wash down the stable walls. A very pretty ornament on the lawn is a sparkling fountain sending a spray several feet in the air from an upright pipe fitted with an eight-hole cap.

much of that light. Certain shades such as maroon reds, deep greens and muddy browns, absorb the light amazingly, while other colors reflect it.

Another general rule may be given regarding the arrangement of colors according to the exposure of rooms and the facing of windows. In rooms with a cold northern exposure, warm colors should be used such as warm yellows, soft rose tones, warm tans and olive greens. For rooms with a south and west facing, grey greens, blues and cool tans and greys are better. If a room done in one color or several shades of one color, seems a little monotonous, a touch of contrasting color in a cushion, a beautiful vase, a bit of old copper or brass, or a blooming plant will give the required note. Pictures always look their best when hung on a plain background, and pictures are an important decorative feature. It is to be regretted that so many people make a careless selection, and crowd their walls with uninteresting and cheaply colored pictures, while so many beautiful reproductions of famous paintings, etchings and prints are offered at such reasonable prices.

To return to the treatment of the walls, a point which should not be overlooked is to have harmony of color between rooms that open into each other. The same color scheme worked out in all the rooms in a gradation of tones with a touch of contrasting color introduced here and there to avoid monotony gives a pleasing unity to the vista. It is rather surprising, too, that color will apparently change the proportions of a room. Blues and yellows recede, making the room look larger than it really is while red will advance and cause the room to appear smaller.

While we appreciate the restfulness and beauty of a quiet background, we must not overlook the charming effects in simple panelling, cut out borders, and friezes made up in modern wall papers, nor the stencilled borders used with applied wall finishes. Apart from their purely decorative purpose, the new tones introduced in these trimmings may add to the unity of the scheme by being carried out in the curtains, or upholstery.

THE ENTIRE ROOM AS A PICTURE

More and more we are forsaking the conglomerate furnishing of a room and considering the make-up as a harmonious whole,—carrying out the main scheme even to details like cushions and lamp shades. I have in mind a charming and inexpensive boudoir illustrating this idea.

The walls had an ivory satin stripe paper with narrow border in a soft rose chintz pattern. The window curtains over white net were of the same color and pattern in unglazed chintz, and the same chintz was used to cover a boudoir box. The bed and dressing table were white, of simple craftsman design, the latter covered with a plate of glass under which were doilies made of chintz edged with linen lace. The chintz was further used in the lamp-shade and in the cushion on the little white rocker.

In a living room the same plan could be carried out by having the walls finished in some soft quiet tone, a cool grey, or light tan, and getting a chintz of bright colored pattern on a ground to match the walls. Brown or grey stained wicker furniture with chintz cushions would look very well in a room like this, or if there is an upholstered parlor suite already on

Sure Protection

TRADE MARK Ventiplex PADS

For Horses

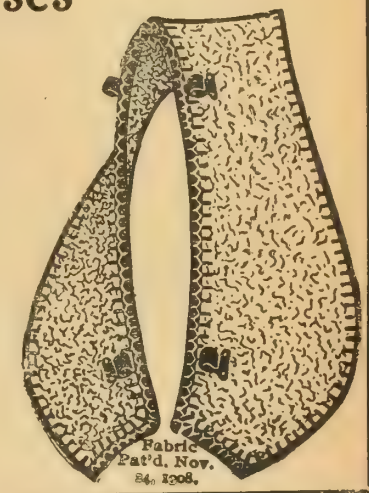
Ventiplex Pads afford a simple, inexpensive method for keeping horses fit, comfortable and free from gall sores.

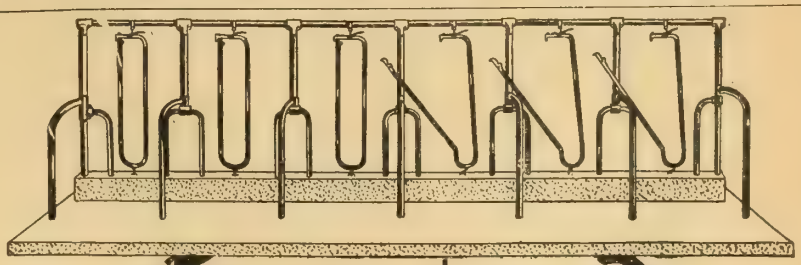
Ventiplex Shoulder Pads prevent and cure gall sores by removing their cause—they quickly pay their small cost in better work from your horses and increased service.

Made of a patented fabric that is very durable and easily washed.

You can get Ventiplex Products from your dealer. Be sure to get "Ventiplex" for a full measure of value and satisfaction.

The Burlington-Windsor Blanket Co.
TORONTO, CANADA





For the Sake of ECONOMY ALONE!

O.K. STANCHIONS AND STALLS

save money, space, time and labor. Far more satisfactory than wood. Many dollars are saved every year on repair bills. Wood quickly rots and must be replaced, but Steel is practically indestructible.

OK CANADIAN

U-BAR STANCHIONS AND STALLS

enable you to stable more cattle in the same barn space than is possible with wooden stalls, yet each cow has just as much room.

Then there is the big saving in time and labor. The cleaning of the barn is done much more quickly and easily. Valuable time is saved for other, and more important, work.

The combination Gravity and Spring Lock on O.K. Stanchions is the simplest and surest lock yet devised.

Stalls of 2-inch iron tubing with "T" clamp fastened by 2 bolts. Strong, rigid, easy to set up.

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Please send Stanchion and Stall Book FREE.
When will you build or remodel? .....
How many cows? .....
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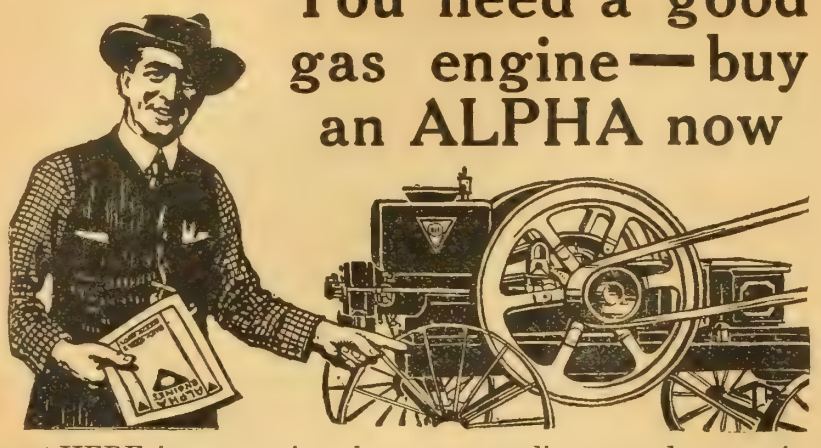
You need a good gas engine—buy an ALPHA now



THERE is no question about your needing a good gas engine. Every day you can see ways in which it would be a big help. Why delay the purchase any longer? You are not saving money by doing without an engine. You are actually losing money. You will not begin to save the price of a good engine until you buy an Alpha and let it do the saving.

But be sure the engine you buy is a good engine—a high-grade, reliable, durable engine that you can depend upon to do the work you expect of an engine.

The first cost is the last thing to consider. The lower the first cost, the lower the quality of an engine, and you cannot get reliable service, durability, low repair and fuel costs, with such an engine. Buy your engine with an eye to the future.

There is nothing mysterious about the superiority of an Alpha. The better design of this engine, the quality of material and workmanship that go into it, are easily seen. Every feature of this engine has in it some sound reason why the Alpha will give you better service and last longer.

Ask for and read our large engine catalogue carefully, and you will see where the extra value comes in.

Alpha Gas Engines are made in eleven sizes, 2 to 28 H.P., and each size is furnished in stationary, semi-portable, or portable style, with hopper or tank-cooled cylinder.

THE DE LAVAL COMPANY, LIMITED

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA.
Sole distributors in Canada of the famous De Laval Cream Separators and Alpha Gas Engines. Manufacturers of Ideal Green Feed Silos.

Catalogue of any of our lines mailed upon request.

MONTREAL PETERBORO WINNIPEG VANCOUVER
50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

NOTICE
To Stallion Owners

Stallion owners having horses requiring inspection, should make application on or before **APRIL 4th.** Inspectors will be sent, commencing **APRIL 17th,** to those owners who have made application at the proper time.

R. W. WADE, Secretary,
Ontario Stallion Enrolment Board, Parliament Buildings, Toronto.

hand it might be covered with slips made of the chintz—an additional advantage if the upholstery is wearing out. In the bitterest days of winter, this room with the sun shining through the bright chintz curtains should be as cheery as a sun-room.

No person can prescribe a room for any other person's home. The beauty of any home comes from the personal touch that gives it an individuality. Some reliable combinations, however, will be found in a soft, warm brown with a trimming either floral or conventional, in rich autumn tones. A light tan with the same style of trimming or with purple tones such as are used in asters or grapes, is also practical. Where either of these are used for a dining room a deep frieze in the contrasting color looks well. With these colors, curtains of natural pongee or raw silk are very handsome, and give no trouble in laundering. With a dull olive or grey green wall-treatment, little touches of mulberry in trimmings, curtains on cushions, is very effective. And one of the most charming schemes for a living-room that has not a very cold exposure, will be found in a soft blue grey treatment for the walls with sparing touches of gold in the border or panels; and either dull gold, or deep blue picked with gold for the curtains, cushions, etc. A rug of grey and old blue with a little bronze or yellow worked into the pattern would complete this room beautifully.

CHOOSE FURNITURE THAT YOU CAN LIVE WITH

In choosing furniture, utility and durability are to be considered first; after that the simpler the style the better. In a farm home, particularly where there are young people growing up, the furniture through the whole house should be so substantial that it can be used every day. Highly carved or "glued on" furniture, is hard to take care of, will not stand steady wear, and soon becomes tiresome even to look at. If one could make up her mind definitely as to where she wanted to keep certain pieces permanently, such as the cupboard, buffet or book case, there is nothing more dignified than the built-in furniture.

THE CHARM OF THE FIREPLACE

Of the many so-called luxuries coming into our modern farm homes none pays for itself more surely than the fire-place, Whatever up-to-date heating appliances may be installed to insure the comfort of the house, the hearth is still, as it was in primitive times, the heart of the home. It is even recognized now to have an "efficiency" purpose as a ventilator, but the thing we cannot afford to overlook is the atmosphere of welcome and good cheer, the inspiration and companionship that comes from an open fire.

Consolidated School Association

At the recent meeting of the Lambton Co. Corn Growers, Inspector Lees, of Peterboro, addressed the growers on Consolidated Schools. Next day, an association consisting of two members from each township was formed for the county to study better school methods. Lambton is showing her progressiveness at every turn.

The New Premier

Of the new Premier of British Columbia it is told that recently he had a 'phone message on Sunday from a very eminent representative of a "large" business in Canada asking him to call upon him at his hotel.

He consented. Shortly before the hour of public worship he left his home and made his way to the hotel, where he met the gentleman who wished to see him. After the exchange of greetings, business was introduced by the latter.

The Premier at once arose and taking his hat, said: "You must excuse me, I am on my way to church."

He left the man of business somewhat astonished, but doubtless none the less appreciative of his worth as expressed in his avowed loyalty to the Lord's Day. A fine example that, and greatly needed in our times.—W. M. Rochester.

Getting Machinery in Shape

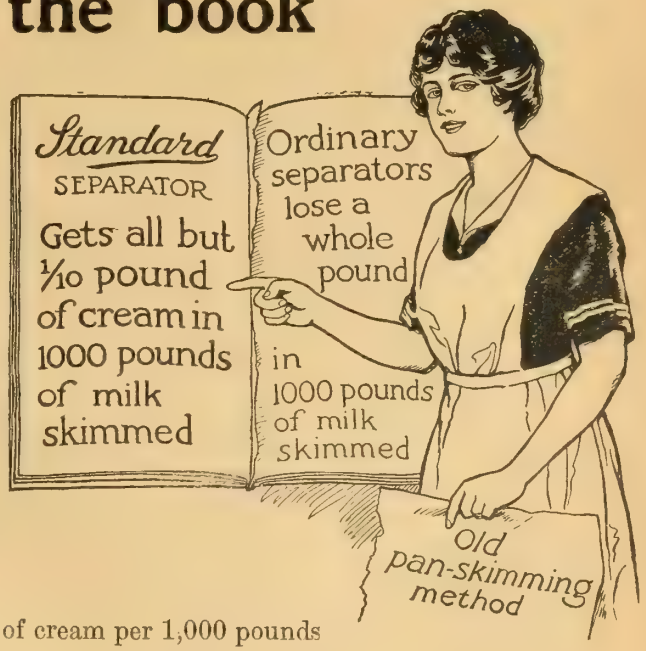
At this time of year many farmers are going over their machinery, getting it in shape for the coming season's work which saves valuable time later. For cleaning out gummed and clogged oil holes a long slender screw is far ahead of a nail or wire. A few turns runs it to the bottom of the hole and in withdrawing it the threads bring out the dirt. In removing broken and battered mower sections it is not uncommon to find a man digging at the rivet heads with cold chisel and punch. It is much quicker and easier to rest the bar on the anvil or its substitute—the mower wheel if in the field—and strike the back of the knife a few taps with the hammer. The rivets are soft and the steel knife shears them off.—P. J. D.

Average Values of Farms

The census and statistics office has reported on the values of farm land, of farm help and of farm live stock in 1916, as returned at the end of January.

For the whole of Canada the average value of farm land held for agricultural purposes, whether improved or unimproved, and including the value of dwelling houses, stables and other farm buildings, is approximately $41 per acre, as compared with $40 last year. The average values by provinces are as follows: Prince Edward Island, $39; Nova Scotia, $33.6; New Brunswick, $29.4; Quebec, $52; Ontario, $52.5; Manitoba, $32; Saskatchewan, $23; Alberta, $22; British Columbia $118.5. In the last named province the higher average is due to orcharding and fruit growing.

On which side of the book is YOUR Cream Separator



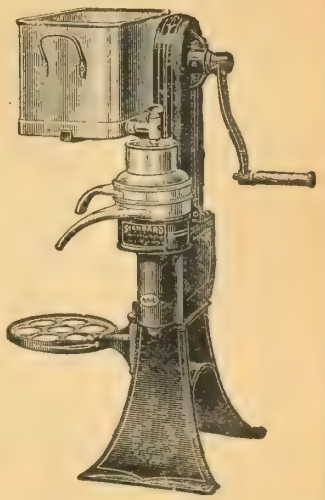
Ask yourself this question: "Which will pay me better (1) to buy an ordinary separator that costs, say, $55.00, and loses a whole pound of cream to every 1,000 pounds of milk skimmed, or (2) to invest in the

Standard

—the separator that gets all but one-tenth of a pound of cream per 1,000 pounds of milk skimmed, and costs, say, $75.00?"

The answer is that with a Standard you save in one year, with twenty cows, no less than $27.25. Here are the figures:

	Standard	Ordinary	Pan Skimming
First cost	$75.00	$55.00	
	7%	7%	
Interest	5.25	3.75	
Add depreciation	3.75 (5%)	5.50 (10%)	
Add loss in cream	3.00	30.00	$70.00
	$12.00	$39.25	$70.00
Saving over ordinary separators			$27.25
Saving over old pan skimming method			58.00



The Standard's close skimming is substantiated by tests made at Government Dairy Schools. The Standard soon pays for itself, not only by saving cream, but by its longer service capacity. That is why only 5% is figured above for depreciation in the Standard and 10% for ordinary separators

The Standard gives more years of service, due to its self-oiling system which decreases wear and tear (all bearings run in a mist of oil), spindle shafts made of tool steel instead of ordinary cold rolled steel, centre-balanced bowl, etc., etc.

The Standard has been tested for 15 years' farm use without apparent wear. Will it not pay you handsomely to have the up-to-date, close skimming Standard? Let us send you a Standard so that you may test it in your own dairy. Catalogue free on request.

The Renfrew Machinery Company, Limited

Head Office and Works, Renfrew, Ontario

Eastern Branch, Sussex, N. B. **Agencies Almost Everywhere in Canada**

You Cannot Get Much More at Any Price—Nor as Much at the Same Price—in Other Cars

The Gray-Dort is a complete car. It offers you all that any motor car can offer. You can pay a much higher price and secure very little more. You cannot secure anywhere near as much in other cars under one thousand dollars. Just note what the Gray-Dort offers:

POWER Etienne Planche built the Gray-Dort motor. And the skill that made his Pugeot the greatest of all French motors, has put his greater achievement, the Gray-Dort, in a class by itself. For here is a powerful motor that is economical. A powerful motor that is light, silent and speedy.

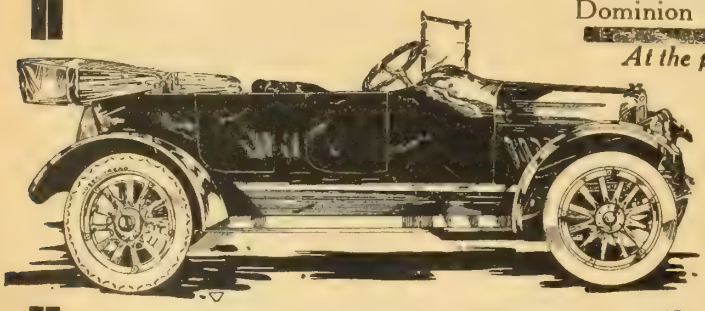
EASE There's luxury in the Gray-Dort—the luxury of roominess, of deep upholstery, of long springs. Rough roads are smoothed out. Touring is made a real pleasure, without fatigue. And there is ease of driving. Westinghouse electric starting and lighting. One-man top. Demountable rims, clear-vision windshield. Safe, sure steering gear. Strong brakes. Easy gear-shift. Comfort has become luxury in the Gray-Dort.

BEAUTY Nothing you own will give so great artistic pride as your Gray-Dort. Its lines are as free and smooth as the flight of a swallow. Only a coach-builder of the standard of Robert Gray could produce such beauty of design and finish. Your friends will envy you this coach-built car.

RELIABILITY The Grays are the largest carriage builders in Canada. Their business is built on honest value, outstanding quality, absolute integrity. This standard has been applied to the Gray-Dort. You can depend on this car—depend on it in any emergency—depend on it for years. It will not fail you. The care that has been taken in building the Gray-Dort is shown in some of the parts used. Westinghouse electric starting and lighting. Carter carburetor. Hyatt and New Departure bearings. Dominion Nobby Tread tires.

At the price no other car begins to offer you so much.

"The Quality Goes Clear Through"



The Car—Mechanically

MOTOR—Gray-Dort, 4 cylinder, cast en bloc, L-head type, bore 3¼ in., stroke 5 in., speed 2000 R.P.M., horsepower 28. Cast iron removable heads. Timing gears—cast iron helical. Carter carburetor. Thermo-syphon cooling, 3 gallon tube and finn radiator. 4 quart oil pump and splash lubrication. Westinghouse two unit starting and lighting system. Connecticut battery ignition. 12 inch cone clutch with six compensating springs. Three speed and reverse selective transmission, with double row New Departure bearings. Universal joint. Gasoline tank under cowl. I beam heavy duty front axle. ¾ floating rear axle, with forked tube torsion and Hyatt High Duty bearings. 10 inch internal expanding and external contracting brakes. Pressed steel frame. Springs—front 37 in. elliptic, rear 50 in. full cantilever. Left-hand drive. 16 in. irreversible worm and nut type steering wheel. Centre gear shift lever. Emergency brake, right pedal. Service brake, clutch pedal. Accelerator. Spark and throttle control on steering wheel. Artillery type wood wheels. Detroit demountable rims: 30 x 3½ Dominion Tires: Nobby Tread rear. Westinghouse electric lighting. Linoleum covered running board. Lock ignition switch. Dashlight, ammeter, roberail, footrail, clear-vision windshield, one-man top, tools, equipment complete.

5 passenger touring model $910
3 passenger roadster model $910

Gray-Dort Motors Limited CHATHAM, ONT. American Factory at Flint, Mich.

$910 GRAY DORT

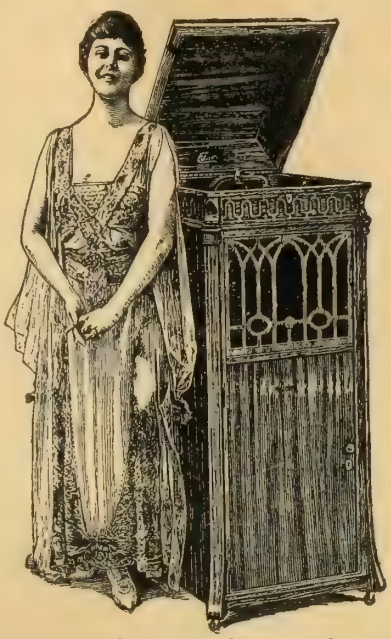
Continued from page 14.

had gone wrong; he decided that this was not the right day to try to convert her to the gospel of country life. When she arrived he was standing in the middle of the stream, explaining the mechanics of the water-motor to a group of men. He was blissfully unconscious of how his muddy hip boots, and collarless shirt with here and there a smudge of machine oil, might appear to a girl who never saw men of her own social strata in any outdoor apparel less elegant than white tennis flannels. He didn't know that his unconcerned appearance as he was, seemed almost like effrontery. She might have even admired it in some novel hero engineer hewing a railroad through a mountain, but there was nothing romantic about this; it was just grovelling in a muddy stream to show some two dozen farmers how a wheel went round; it was just the dirt and soil of farming and he seemed to like it. She found herself comparing him with the leisurely-polished men of her own little *coterie*, and she decided that she liked clean men. She was also unusually indifferent to-day on account of the event at the Country Club. It was the recognized social centre for urbanites who from choice or necessity had stranded themselves on the dead sands of rural life. They frequently entertained very smart people from town, and Mrs. Evison, with a mother's ambition, and a social expert's diplomacy, looked upon it as the one chance in this isolated place, through which she could give her daughter "opportunities."

The Evisons didn't want to separate themselves literally from the neighborhood social life, of course; they would try to drop in for a few minutes at every community gathering, and they would give their grounds for garden parties and use whatever other advantages they possessed for the good of "the people," but it was not to be expected that just because they were back-to-the-landers they should be satisfied with the company of people of entirely different social interests. This agricultural young man who had filled in so nicely to give Marjorie a good time, who was so safe and unpresuming, had always seemed rather superior, probably on account of his college experience. He had always refused to be considered anything but a farmer and they had laughed at him, but to-day, dirty and disheveled, he looked it. They must hurry on. And Billy watched the scarlet blur of a girl's motorcoat until the long gray car carried it out of sight; then he returned to his water wheel. The shadows were already darkening over the dream place on the hill.

The people went away interested. An agent or two who had hovered tirelessly about the place all day, succeeded, in spite of government regulations, in taking a few orders for their goods on exhibition, and Billy was satisfied with the day's work. He knew that if one improvement came into actual use in the district others would follow. When the last car had gone he had a scrub up at the spring, made the best of his disordered appearance and went to the house to find Ruth. Notwithstanding the success of the day's proceedings he had a heavy sense of disappointment. After all, the whole scheme had been inspired by a personal object and that had failed. To-morrow he would be able to think of some new tack, of course, but to-night he welcomed the buoyant philosophy and sympathetic in-

Not Listening But Comparing.



In other words, a great artist singing on the concert stage in direct comparison with the Re-Creation of her voice by The New Edison.

This is what the picture means. It shows Anna Case, of the Metropolitan Grand Opera, proving by actual comparison that Thomas A. Edison's new invention Re-Creates her superb art with absolute fidelity.

The NEW EDISON

is no mere talking machine. Its Re-Creation, and the living voice, are indistinguishable.

The musical critics of more than two hundred Canadian and American papers stated that they were unable to detect any difference. To express this perfection—to cause the New Edison to stand out from the ordinary talking machine, music lovers coined a new title for Mr. Edison's marvellous success—"Music's Re-Creation."

Send to us for a copy of the brochure, "Music's Re-Creations," and the booklet "What the Critics Say."

Thos. A. Edison Inc., Dept. 7824, Orange, N.J.

64

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Leading Architects specify Milton Brick. They know that no better value can be secured in Canada. Our Rug and Pressed Brick, in Red, Buff, Green, Brown and Variegated Colors have outclassed any brick on the market.

Write for Samples and Prices

Milton Pressed Brick Co., Milton, Ont. Toronto Office, 50 Adelaide St. W. TORONTO - - ONTARIO

PEDLAR'S "GEORGE" SHINGLES

ARE you really saving money by neglecting to re-shingle that barn roof? You know that each additional patch lessens the value of your building. You know each widening leak means rotting, loosening shingles and early decay. You know that only by Pedlarizing your roof can you get enduring freedom from repair and rot. Pedlar's "George" Shingles bring you the durability and wearing qualities of steel at a price, when laid, about that of a good wooden shingle roof. A Pedlarized roof will last for generations, protecting you at all times from the danger of lightning and fire. The "Right Roof" Booklet F.M. telling you all about steel shingles and how to lay them, is free. Write to-day.

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GRASSELLI
SPRAY PRODUCTS
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GRASSELLI—Lime Sulphur Solution
GRASSELLI—Arsenate of Lead, Paste and Powdered
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GRASSELLI—Free Nicotine, 40%
GRASSELLI—Paris Green

Write Us

The Grasselli Chemical Co.
Limited
Toronto Hamilton Montreal

terest that always seemed to go with Ruth.

He found her in the kitchen helping the farmer's wife with the supper. It was a repast fitting a day's strenuous work out of doors—a great iron kettle of sizzling fried potatoes, a cold roast chicken reserved from the weekly market supply, a platter piled with steaming ears of corn, and deep brown-skinned pumpkin pies. The doors were open and a crackling wood fire warmed the frost-edged air of the October evening. He found an old instinct stirred strangely by something in the genuine home atmosphere of the place. He couldn't tell whether it was the motherly air of the woman who directed things, or the way the littlest sleepy towhead burrowed into his father's shoulder, or whether the spell was partly due to the rose-shaded light falling about the girl with her silky dark hair and glowing eyes. They were not at all practised in magnetic arts, those eyes; they were just frank and kind and happy and rather beautiful, he thought — the light might have been responsible. He had a boyish desire to tell her what troubled him—not definitely, of course; he had a masculine cautious dislike of personalities, but if he could give her the abstract problem, he might at least get the benefit of a woman's view-point. He had to take her to the station that night and he would drive around by the hill.

The mountain road was beautifully winding. For a stretch the trees arched over leaving it cut like a black tunnel through the woods, then the rocks shot up a steep wall on one side and on the other a rain-washed slope ran down to a level of flat tilled fields. At the crown of the hill the woods ended and a plateau of cleared land marked the beginning of the farm.

The car stopped abruptly.

"Do you know," Billy began with animation, "I've always thought I'd like to own this place. What do you think of it? I've gone over every foot of it and I know it's a good investment—that it would give a good living at least. Do you think it could ever be made a good place to live?"

Ruth looked at the crumbling house with its background of old trees. She remembered how the maple had flamed in the sun when she saw it from her window that morning. Now with the shadows lying sharp and black on the frosted grass and the moonlight filtering through the branches, it seemed to stand waiting for something to shelter and protect—rather a curious old sentinel too; wondering just what loves and trials and heart breaks would be lived out in the house to be. Suddenly she came to, remembering that he had asked if she thought the place could be made livable.

"Why not?" she said.

"Well — it's twelve miles from the city——"

"You'd have a car. Why would you want it nearer the city?"

"I wouldn't. I just wondered——. I want to build a house like a Swiss chalet, low and brown with a little corner tower for a sunroom, and a stone foundation just piling up naturally out of the ground, and a stone chimney with a fireplace as wide as a cave where a person could dream the wildest kind of dreams and then live them. You can hear the creek roaring over the hill; there's enough water power there to run a factory, and the house could be made pretty snug, I think; but sometimes I'm afraid Ive just let myself be carried away with a vision—east is east, and the country will never make a good imitation of the town. You have lived in the city, and you know the country pretty well. Do you think this could be made a place where—well, where anyone not used to country life would be happy?"

"I think it could." She was looking away and the tone did not sound at all impulsive. Desperately he tried again.

"Do you think a man would be a downright piker to ask a girl who has always had everything she wanted to come to a place like this?"

"No." The answer was very frank, and the girl bolted directly into a rapid, and not very comprehensive review of plans she had seen developed in less promising places. For some reason she seemed confused.

To be continued.

The Prairie Park Country Calls

By W. H. J. TISDALE

FOR the past three years now, the Saskatchewan Department of Agriculture co-operating with the College of Agriculture at Saskatoon and the various railways in the province, has been operating one of these trains for about six weeks during the months of June and July. The success, evidenced by attendance and interest shown has been more marked each year and one almost wonders if such a scheme will ever lose its popularity and usefulness amongst the people.

The work of the train has been most extensive, embracing as nearly as possible all of the more important phases of agriculture as far as the Western farmer is concerned; animal husbandry, field husbandry, agricultural engineering, farm building, dairying, poultry and household science.

The main and branch lines of the C. N.R. running through the northern part of Saskatchewan provided the points of application, and commencing at Langham on June 12th the itinerary was completed at Alsask, a town in the famous Goose Lake country on July 14th. An endeavor was made to stop for one-half day at every second or third town, deliver lectures and then allow the people some time to examine the various exhibits and ask questions. In this way 56 places were visited during the five weeks and 22,973 persons came to glean information, thus making an average attendance of 410. This average was much exceeded at certain points, of course, running even as high as 1,000 during the stop at Melfort, a town situated in the wonderfully fertile Carrot River Valley. The above total was composed of 8,245 men, 5,510 women and 9,218 children. Many of these people drove thirty and forty miles and

some were even known to walk twenty-five miles and thirty miles to hear the lectures. It was encouraging to hear them say when the train was ready to move out that they would gladly come the same distance another season.

A PARADISE FOR LIVE STOCK.

Anyone knowing the Province of Saskatchewan will know that when Northern Saskatchewan is spoken of, the district referred to is vastly different to the prairie lands of Central and Southern Saskatchewan. The presence of abundant natural shelter in the form of bluffs that gradually broaden out into thickly wooded areas the farther north one travels, the presence of water in the form of small rivers and lakes and the endless stretches of natural pasturage in the form of native grasses and pea-vine not only make it well deserving of the name "park country" but render it as well a veritable paradise for cattle and other stock. Farmers in these northern parts are rapidly becoming advocates of mixed farming and far-sighted men are realizing the profit that can be made by turning this natural growth and the coarser grains that are easily grown, into beef, mutton and pork. Such districts as Melfort, Prince Albert, Turtleford, Foam Lake and Saltcoats are already becoming famous for the quality and numbers of live stock shipped out each season and with the establishment of a closer market they should come to the fore more than ever.

As noted from the attendance figures one of the most pleasing features of this season's work was the presence of so many school children at every point. In many instances they numbered between three and four hundred and their enthusiasm and interest was just as overwhelming as their numbers. Many of the teachers in each district declared a half holiday as far as the school work was concerned and conducting the children to the train in a body, made it their business to see that the younger generation derived every possible benefit. Special lectures on birds and other subjects of interest were given in the "Boys and Girls" car, after which the train in all its departments was thrown open for the children's inspection. At points such as Hafford, Krydor, Howell and Bruno, where the total attendance was ninety per cent. Doukhobor and Galician, the children were much in evidence and as a result of English taught in the country schools they were the only ones who really understood anything of what was being said by the lecturers. It was very evident, too, that they absorbed a great deal of the information and one of the most gratifying features of the whole trip was to see these children telling small groups of their elders all about the things they had seen and heard.

It would hardly be right to pass by the mechanical car that was of direct interest to every man, woman and child, old and young in attendance. Models and plans of labor-saving devices for the farm home, an electric lighting system for the farm buildings, gasoline engines, a model barn, a series of handy knots and illustrations of rope-splicing were all carried in this car and the instructors in charge were kept more than busy answering a steady stream of questions relative to all these. It can be safely stated that no other car in the train's make-up was of more general interest.

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Womens' Organizations

Through the Women's and Girls' Institutes the home canning industry is being developed.

Gardening and Canning Contest.

The Department is offering to the Women's Institutes of Ontario a very interesting Gardening and Canning Contest this year. To any Institute where ten or more members will enter the contest the Department will furnish seeds for planting, a blue-print of the garden plan to be followed, with a booklet of instructions. Competitors are also required to can five varieties of vegetables for exhibition in the Fall. Small cash prizes will be awarded by the Institute, though this is a matter of secondary importance. It can readily be seen that this may be developed into one of the best educational movements in thrift and home improvement yet undertaken by the Institutes, opening a way for farmers' daughters and wives (if they have time) to go into a profitable home-canning business.

The Department will send a canning demonstrator to any Institute desiring instruction on the most up-to-date methods of canning vegetables and fruits for home use or for the market, and if any competitiors wish to grow a supplementary plot of winter vegetables with a view to shipping them to the city in the fall, the Department will secure the names of individuals in the city desirous of buying shipments of winter vegetables. It is to be hoped this work may be taken up generally throughout the province, so that every farm home may have a liberal supply of fresh vegetables throughout the summer, a variety of winter vegetables, and according to one estimate, a can of green vegetables put up for every day of the year. If the vegetables are home grown, the canning costs nothing but the salt. After this there is every promise that commercial canning may be opened up as a profitable source of income for women and girls.

The U.F.W.A. and Patriotic Work.

The U.F.W.A. have completed a very successful year, as shown by reports given at their recent convention at Edmonton. In respect to growth, the number of clubs has more than doubled since last year. The work of some individual clubs during the year is reported as follows:

Namaska, with a membership of 18 raised $1,700 for the Red Cross and made 500 garments. Riddellvale raised between $300 and $400 sewing and knitting continually. Sunnyvale with a membership of 23, representing five sparsely settled school districts raised $180. Loverna with all its women interested, but that all only 11, raised $174 by a chicken supper. In most cases where there is no Red Cross Society in connection with the U.F.W., the members have joined the nearest branch and are contributing to it. Some of the clubs are supporting a Belgian family others are raising a stated sum monthly for Belgian relief, and still others are supporting a prisoner of war.

Co-operation in Women's Organizations.

At Laurel, Ontario, the women of the community proved splendidly their ability to co-operate when the Methodist Ladies' Aid, the Presbyterian Auxiliary, and the Women's Institute worked together to give a "Shanty Man's Dinner," the proceeds to go to the Red Cross.

More Community Play.

A pleasing feature of the year's work has been the interest shown by many of the clubs in the young people, and this year promises closer co-operation with the Department of Agriculture and the Department of Education in the matter of boys' and girls' clubs, school fairs and field days. The Rothwell club, along with the local U.F.A., purchased a tennis and croquet set for the young people and had

the grounds open for play each evening during the summer. Once a week the older people join them, a feature which should be emphasized if we are to make our rural life the most wholesome.

Demonstration-Lecture Courses in Ontario Women's Institutes.

Up to the end of January the demonstration-lecture courses which had been held or were still in progress in Ontario numbered twenty-four in Sewing, twenty-four in Domestic Science and Home Nursing. A new course of ten lessons in Poultry-Raising was given at the Soo, by Miss Yates, outlined after the following programme:—

THE MANAGEMENT OF POULTRY.

1st Period.

Lesson 1. The Races of Poultry.
" 2. Problems of Hatching Chickens.
" 3. Methods of Rearing.
" 4. Table Poultry.
" 5. Egg Production.
" 6. Management of Stock Birds.
" 7. Poultry Houses.
" 8. Foods and Methods of Feeding.
" 9. Turkeys and Water Fowl.
" 10. The Cost of Production.

DEMONSTRATION AND CLASS WORK.

2nd Period.

Lesson 1. Lantern Pictures.
" 2. Study of Incubators and Nests.
" 3. Study of Hovers, Brooders and Feeding Appliances.
" 4. Demonstration—Killing and Shaping.
" 5. Demonstration—Candling and Grading Eggs.
" 6. Judging Class—with Living Specimens.
" 7. Demonstration—Trussing for the Oven on Visit.
" 8. Lantern Pictures, Illustrating Vegetable Growing in Relation to Feeding Poultry.
" 9. Study of Food Mixtures and Mashes.
" 10. Demonstration—Boning and Canning.

THE BIRD'S BODY IN HEALTH AND DISEASE.

3rd Period.

Lesson 1. The Body—Its Frame and Feathers.
" 2. Chick Development and Reproductive Organs.
" 3. The Brain and Nervous System.
" 4. Pests and Powders.
" 5. Respiration.
" 6. Inheritance.
" 7. Diseases.
" 8. The Digestive System.
" 9. Economical Methods of Cooking Poultry—Including Canning.
" 10. A Feast—a Visit or an Examination.

Sanitarium for Returned Soldiers.

The East Lambton Women's Institute is endeavoring to raise $500 to furnish a ward in the Sanitarium at Byron, for returned soldiers who may be afflicted with tuberculosis. Among the many forms of aid the women of Canada are giving to the cause of the Empire there is none more deserving than this one.

SMALL HOLDINGS

Officer—And what are you going to do when you get there?"

Emigrant—Take up land.

Officer—Much?

Emigrant—A shovelful at a time.

COLOR REACTIONS

"Colors affect the emotions. A red flag makes a bull mad. Pink makes people affectionate."

"Something in that. Long green has a similar effect upon my wife."

HORRIBLE CALAMITY

First Idiot—Terrible accident in the talking machine factory.

Party of the Second Part—How's that?

First Idiot—This year's sales broke all the

LOWER PRICED

ONION SEED HIGH GRADE TESTED ONION SEED AT ONE DOLLAR A POUND LESS THAN LAST YEAR. SOW 5 LBS. SEED PER ACRE. AVERAGE CROP 500 BUSHELS PER ACRE.

Yellow Globe Danvers Onion, black seed.....oz. 25c, lb. $2.10, 5 lbs. $9.25
Giant Yellow Prizetaker Onion, black seed.....oz. 25c, lb. $2.10, 5 lbs. $9.25
Large Red Wethersfield Onion, black seed.....oz. 25c, lb. $2.00, 5 lbs. $9.25
Market Maker Golden Globe Onion.....oz. 25c, lb. $2.10, 5 lbs. $9.25
Early Yellow Danvers Onion, black seed.....oz. 20c, lb. $1.90, 5 lbs. $8.25
Southport White Globe Onion, black seed.....oz. 40c, lb. $4.00
Red Globe Prizewinner Onion, black seed.....oz. 25c, lb. $2.10, 5 lbs. $9.25
Select Yellow Dutch Onion Setts.....lb. 35c, 5 lbs. $1.70
XXX Guernsey Parsnip, fine, smooth roots.....Pkg. 10c, oz. 20, 4 oz. 50c.
Detroit Dark Red Table Beet (round).....Pkg. 5c, oz. 20c, 4 oz. 50c
Chantenay Red Table Carrot .....Pkg. 5c, oz. 25c, 4 oz. 65c
Rust Proof Dwarf Black Wax Butter Beans.....lb. 50c, 5 lbs. $2.25
Early White Cory Sweet Table Corn .....lb. 35c, 5 lbs. $1.50
London Long Green Cucumber (great cropper) ..Pkg. 5c, oz. 15c, 4 ozs. 40c
XXX Solid Head Lettuce ..... Pkg. 10c, oz. 25c, 4 ozs. 75c
Improved Beefsteak Tomato ..... Pkg. 10c, ½ oz. 35c, oz. 60c
XXX Scarlet Oval Radish (mild, crisp).....Pkg. 10c, oz. 20c, 4 oz. 50c
Little Marvel Garden Bush Peas, very early.....4 oz. 15c, lb. 40c
Early Branching Asters, Crimson, Pink, White or Mixed.....Pkg. 10c
Mammoth Fringed Cosmos, mixed colors ..... Pkg. 10c
XXX Mammoth Verbenas, superb mixture of colors.....Pkg. 10c
XXX Spencer Giant Sweet Peas, all shades mixed.....Pkg. 15c, oz. 35c.

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HAMILTON TORONTO WINNIPEG

New Ideas for Spring Clothes

THIS simple little dress, 8605, is charming in soft silk, muslin or any of the light summer goods. The overdress fastens on the shoulder and under the arm. There is an underbody with one-seam sleeves in full or shorter length. The one-piece gathered skirt measures 2½ yards at the outer edge. The medium size requires 6 yards of 45 inch goods for the dress, 8 yards of lace banding and ¼ yard of 36-inch allover lace to match the banding for the yoke. Dress 8605 in five sizes, 34 to 42 inches bust measure. 15 cents.

This attractive yoke-waist 8611, in high or open neck, has one-seam sleeves in full, three-quarter or shorter length. A blouse lining is given. Four-piece skirt 8618 has a plain front and back panel and tucked sides gathered at the waist-

Dress No. 8605

Waist No. 8611.
Skirt No. 8618.

Waist No. 8586
Skirt No. 8612.

One of the spring's charming new sailor models.

8597

line. At the lower edge it measures 2¾ yards.

The medium size requires 5¾ of 40-inch flowered organdy for the waist and the sides of the skirt, and 3⅜ yards of 40-inch plain organdy for the yoke, cuffs, front and back panels and the ruffles.

Waist 8611 in 5 sizes, 34 to 42 inches bust measure. Skirt 8618 in 5 sizes, 24 to 32 inches waist measure. 15 cents each.

Charming indeed is the result of combining waist 8586 and skirt 8612. The waist has a blouse lining in high or two depths of open neck, and a bolero with a plain or scalloped outline at the lower edge. There is a drop shoulder and one-seam sleeves in full or shorter length. The gathered four-piece overskirt has the seams closed in the usual way or left open. The foundation skirt measures 2¼ yards at the lower edge.

The medium size requires 5¼ yards of 40-inch Georgette crêpe for the waist, the overskirt and the skirt facing, 2½ yards 36-inch material for the foundation skirt and 4½ yards of embroidered chiffon banding to trim the dress, and ball trimming of Georgette crêpe.

Waist 8586 in 5 sizes, 34 to 42 inches bust measure. Skirt 8612 in 4 sizes, 24 to 30 inches waist measure. 15 cents each.

8597.—Child's First Set.—Consisting of a dress in one with the sleeves in full or shorter length, a princess slip buttoned on shoulder and with or without ruffle and one-piece drawers. As shown on the figure, size 2 years requires 1⅜ yards of 36-inch lawn for dress, 4½ yards of lace insertion, 2 yards of lace edging, 1¼ yards of beading for dress, with 2½ yards of ribbon for rosette and beading. Batiste, longcloth, nainsook and mull may be used. Sizes ½, 1, 2 years. Price, 15 cents.

8488.—Girls' and Little Girls' Dress.—Having an underbody in high or open neck with one-seam sleeves in full or shorter length, an overblouse and a straight gathered skirt suitable for flouncings or other materials. Size 4 years requires 2⅜ yards of 36-inch if made of one material and full-length sleeves. As shown on the figure, size 4 years requires 2¾ yards of 28-inch batiste flouncing for skirt and sleeves, with ¼ yard of 36-inch bastiste for un-

Con. on p. 33.

One of the new spring models.

For Women's Overalls

—the new, practical, sensible, working garment—the nattiest and most serviceable fabrics are

"Rockfast" Drill

In Khaki and Black-and-White Stripes, and

"Steelclad" Galatea

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Decide now to master your corn forever. Let today's corn be the last. Blue-jay will free you from the most painful corn. Apply one of these soothing plasters tonight. Pain ends. In 48 hours the corn disappears. Only Blue-jay gives this insurance. Paring is temporary. Harsh liquids are dangerous.

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Also Blue-jay Bunion Plasters

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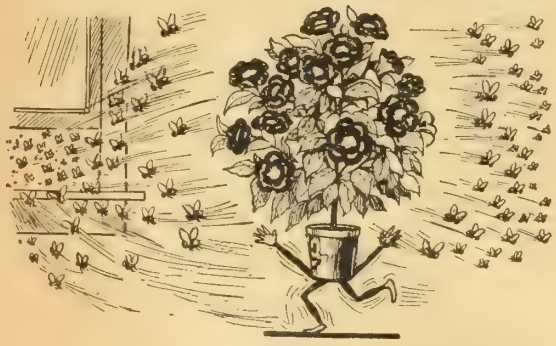

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Ontario Wind Engine and Pump Company, Limited
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TORONTO and MONTREAL

THE MONTH'S RECIPES

DELICATE SCRAMBLED EGGS.

Make two cups of white sauce as follows: Melt 2 tablespoons butter in a saucepan and stir in 2 tablespoons flour. Add 2 cups milk and stir until it thickens. Season with ½ teaspoon salt and few grains of pepper.

Break 4 eggs in a bowl with ½ teaspoon salt and beat until light. Put the white sauce into a double boiler, add the beaten eggs and as the mixture begins to set, stir very lightly with a fork, lifting it from the bottom until it is all light and set. Turn into a hot dish and set.

POTATO CAKES.

2 cups warm mashed potatoes
2 scant cups pastry flour
1 teaspoon salt
1 egg

Mix and roll out ¾ inch thick, cut like biscuits, brown on a frying-pan, then set in a moderate oven for about twenty minutes and serve while hot.

CHEESE FONDUE.

1 cup scalded milk
1 cup soft stale bread crumbs
1 cup grated cheese
1 tablespoon butter
½ teaspoon salt
3 eggs

Mix the first five ingredients and add the yolks of the eggs, well-beaten. Fold in the stiffly beaten whites. Pour into a buttered baking dish and bake twenty minutes in a moderate oven.

SALMON CROQUETTES.

Mix equal parts of cold flaked salmon and hot mashed potatoes. Season with salt and pepper. Shape into croquettes, roll in bread crumbs, dip in beaten egg, roll in crumbs again and fry in hot fat or on a greased pan.

SALMON SALAD.

1 can salmon
1 bunch celery
1 cup English walnuts (optional)
Salad dressing

Flake the salmon, chop celery and walnuts, mix with salad dressing and serve on lettuce leaves or garnished with celery curls.

TOMATO JELLY SALAD.

To one can stewed and strained tomatoes add a teaspoon each of salt and sugar, and gelatine, one tablespoon to a cup of liquid. Pour into individual moulds or into one large mould and chill. Turn out on a plate garnished with lettuce leaves and serve with salad dressing.

ORANGE MARMALADE.

6 sweet oranges
6 bitter oranges
3 lemons
10 cups sugar
10 cups water

Slice the fruit as thin as possible, and remove the seeds. Turn the fruit and water into a vessel and let stand twelve hours. Then boil two hours. Add the sugar, which has been heated in the oven,

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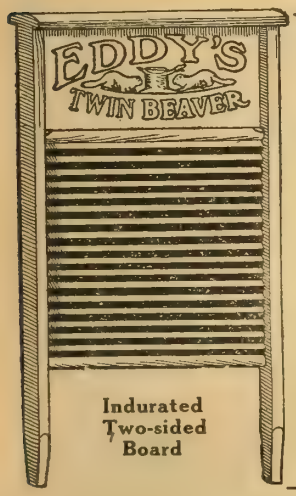

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but not melted. Boil one-half hour longer and seal.

MAPLE MOUSSE.

2 tablespoons cold water
1 teaspoon gelatine
2-3 cup maple syrup
1 pint of cream, whipped

Soak gelatine in cold water; heat the syrup and dissolve gelatine in it. When cool and partially thickened combine with the whipped cream. Pour into moulds, baking powder tins are excellent for the purpose. Pack in a mixture of two parts ice to one part salt and freeze for about four hours.

WALNUT CARAMEL PUDDING.

Brown one cup brown sugar, pour in a little hot water and stir until the sugar is dissolved. Add 2 cups sweet milk. Dissolve 2 heaping tablespoons of cornstarch in a little cold milk, add this to the hot milk and sugar and stir until it thickens. Add one-half cup of walnuts and a pinch of salt, pour into a wet mould and serve cold with cream.

SPANISH BUN.

¾ cup sugar
6 tablespoons butter
2 eggs (save white of one for frosting)
½ cup sweet milk
1 cup flour
¼ teaspoon nutmeg
½ teaspoon cinnamon
¼ teaspoon cloves
1½ teaspoon baking powder

When the cake is baked beat the one egg white with ¼ cup sugar, pile the meringue over the top, and brown in the oven. A layer of jelly may be spread over the cake first.

New Ideas for Spring Clothes

Continued from page 31.

derbody. Sizes 2, 4, 6, 8, 10, 12 years. Price, 10 cents.

8493.—LITTLE GIRLS' GUIMPE DRESS.—To be put on over the head. Having body and sleeves in one. Pockets may be omitted. Size 6 years requires 2⅛ yards of 32 or 36-inch, or 1⅝ yards of 42-inch if made of one material, or 1⅝ yards of 32 or 36-inch material for dress and ½ yard of material for trimming. As shown on the figure, size 6 years requires 1¾ yards of 36-inch voile for dress, with 2¼ yards of embroidery banding for trim. Sizes 1, 2, 4, 6 years. Price, 10 cents.

U. F. O. Officers.

The following officers were elected to the U. F. O.: President, R. H. Halbert, Melancthon; First Vice-President, E. C. Drury, Barrie; second vice-president, W. C. Good, Paris; secretary-treasurer, J. J. Morrison, Arthur; Directors: E. A. Van Allen, Aultsville; L. H. Blatchford, Embro; W. H. Hunter, Varney; T. H. Adams, Essex; Peter Porter, Burford.

The financial statement shows that the net earnings over expenses last year were $858.94.

Economize—use 2 cups of left-over meat

KNOX MEAT LOAF

Soak 1 envelope KNOX Sparkling Gelatine in 1 cup cold water five minutes. Add 1 onion, grated, and 1 stalk of celery to one pint rich stock well seasoned, and after boiling a few minutes strain and pour over the softening gelatine. Add juice of one lemon and when the jelly is beginning to set, mold in 2 cups cooked and chopped veal, chicken or other meats. Slice and serve on platter.

Use **KNOX SPARKLING GELATINE** and you have quality and quantity

FREE Recipe Book

for your grocer's name. If you have never used Knox Gelatine, enclose 4c in stamps, for pint sample (enough to serve 5 people).

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"Gilt Edge"

The only black dressing for ladies' and children's shoes that positively contains **OIL.** Softens and preserves. Imparts a beautiful black lustre. **LARGEST QUANTITY FINEST QUALITY.** Its use saves times, labor and brushes, as it **Shines without brushing.** Sponge in **every bottle, so Always Ready for Use.**

gents' kid, kangaroo, etc. 25c.

"QUICK WHITE" (in liquid form with sponge) **quickly cleans** and whitens dirty canvas shoes. 10c and 25c. **"ALBO"** cleans and whitens **BUCK, NUBUCK, SUEDE** and **CANVAS SHOES.** In round white cakes packed in zinc boxes, with sponge, 10c. In handsome, large aluminum boxes with sponge, 25c.

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Crescent Grinding An Exclusive Process

Used only in the manufacture of Simonds Cross-Cut Saws. Remember, *"Simonds"* Saws are guaranteed to hold a cutting edge and stay sharp a longer time than any saw not made of Simonds steel.

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Simonds Crescent Ground Saw No. 325

The Lankford HUMANE HORSE COLLAR

cures your horse while he works

Galls and sore shoulders reduce the efficiency of your horse—sap his strength—down his spirit. Cure him without the use of medicine—while he does his heaviest work, with the Lankford Collar.

We guarantee a cure

when properly fitted. Be careful and get the genuine Lankford Collar—made of best white sail duck, trimmed in extra heavy leather and stuffed with clean and downy curled cotton, medicated, which will not pack or harden. Also comes in special brown *waterproof* duck.

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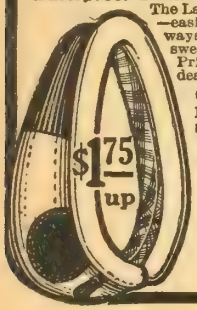
The Lankford fits any shape neck—easily put on or removed—always soft and pliable. Will not sweeny. Hame straps attached. Prices $1.75 and up. See your dealer.



Over 12,000,000 sold

Lankford Collars *prevent* galls and sore shoulders, as well as cure them. Get one today—one for each horse, but be sure it's a Lankford.

Buy a Lankford

Send postal for copy and of our literature on Lankford Horse Collars.

Powers Mfg. Co.

Waterloo, Iowa

Sugar Beets in Western Canada

Combined Action Always Results in More Harmonious Co-operation Between Growers and Sugar Men

LAST spring some of the Kent Farmers' Club went to the Dominion Sugar Co., of Wallaceburg, and asked for a raise in price. The company had given a bonus of 50c. for the growing crop, bringing the price up to $5.50 a ton, delivered at the railway siding. They replied that they did not feel like increasing this price. The farmers of Lambton county and Kent and Essex counties did not consider this a satisfactory answer considering the way that sugar was selling in the market. When we were getting $3.90 per ton in 1906, they reasoned sugar was selling at $5 per hundredweight, and now we are only getting $5.50 when sugar is selling at $8 per hundredweight.

On Oct. 28, a public meeting was held in Chatham, to consider taking action for the following year's crop and some 250 delegates were present from these counties. Many farmers said that $5 was not enough for a ton of sugar beets. It was decided to organize the farmers of the shipping stations into associations, with power to send three delegates to the central meeting. Before this meeting was adjourned, it was decided to call a meeting at Chatham for November 4. In the meantime, invitations were sent to the Lambton growers asking them to help. Three strong clubs were formed in Lambton in that week, at Inwood, Petrolia, and Wanstead. As a result the Ontario Beet Growers' Association was formed, with three men on the board, one from Lambton, two from Kent and one from Essex, to go to the Dominion Sugar Co., on behalf of the farmers and ask for $7.25 a ton delivered at the factory and $7 delivered at the siding. The seed also was not to exceed 15 cents a pound.

Now, let us look at the growing of sugar beets from the farmers' side of the business; beets will only grow on a level clay loam, well tiled, and on land in a good state of cultivation. Belgian laborers do the thinning and hoeing and topping of the beets for $18 per acre. However, next year labor is so scarce they are talking of asking $20 to $21 per acre. The total cost of an acre of sugar beets to the farmer would be, rent of land, with ploughing, $12 per acre; discing and planting, $2 per acre; cultivating five times, $3 per acre; lifting with the team and lifter, $2 per acre; the Belgian labor, $18 per acre; hauling 10 tons would be $4 per acre. Total expense, $41 per acre. The average yield is about ten tons to the acre, and it will not be hard to figure out what the profit will be on an acre of sugar beets. This year we are receiving $5.50 per ton, which amounts to $55 per acre, leaving a clear balance of $14.

There is another side of our style of contract, called the percentage system, by which a 12 per cent. sugar beet is worth $4.75, and for every percent. over we get 33 1-3 cents. In 1914, we shipped cars of beets that tested 18.9, but a 12 per cent. beet was worth $4.50 then. This year, on account of the late season, beets were not properly matured, and the highest testing car so far was 17.4, realizing $6.55, with a moment of 50 cents, making $7.05 a ton, but we have to pay freight on the beets to the factory, amounting to 75 cents a ton, also extra for the seed, amounting to 15 cents a ton.

Now, we do not always get ten tons to the acre, and last year on account of the wet summer, a blight seemed to strike the beets, and our average for 30 acres was six tons per acre. There was no more than wages made last year. This year one field ran eight tons, another went ten tons, and one went twelve tons, which was just a fair average. From this shipping station 64 loaded cars were shipped during the season. One mile east, another station shipped 26 carloads. Two years ago from our station about 130 cars were shipped, and for a five-mile strip of railway 432 cars were shipped.

Beet growing is on the decline here, the farmers find that the work so late in the fall is very unprofitable, as the roads at times are nearly impassable, and it throws the ploughing back so late in the season that it does not pay in the next year's crop.

Also, farmers find that beets have a tendency to make the soil tight in the bottom, the same as corn does; we never plough the beet land from which beets have been removed, merely running a water furrow when we have time before frost catches us. We generally get good crops of oats and barley from the land that has grown beets the previous year.

The good points in beet culture are: Cultivation cleans the soil, and the money comes in in a lump at a good time. A person on 100 acres that has help enough to tend about five acres, will find it quite profitable, providing he is not over two miles from the railway siding.

A 15 per cent. beet will yield 300 pounds of refined sugar to the one ton of raw beets. 17.4 per cent. beets will yield 340 pounds; at 7 cents a pound, 340 pounds will bring $23.80 for each ton, or on a ten-ton crop, one acre will give $238. There are also two other products of sugar beets. After the sugar is extracted, 20 tons of the wet pulp is dried down to one ton of beet meal, selling now at $30 per ton, also a low grade of molasses is obtained by the factories. It is said on good authority that these side lines pay for the cost of manufacturing refined sugar. Also for each ton of sugar beets refined, the company is entitled to one ton of raw clean sugar, duty free, for after the beet sugar season is past, the factory is run on raw clean sugar imported from the South. This ought to enable the factories to get along very well, and give the farmer a sufficient price to pay for all contingencies.

If we don't get $7 a ton we do not need to grow them, which is the farmer's one way of getting even. At any rate we intend to grow less than half our usual acreage next year, and go in for more cattle and hogs.

I have grown sugar beets for ten years, and, therefore, have considerable knowledge of what it costs to grow them.—E. S. W.

Dressing Percentages

The following percentages, furnished by Armour & Co., of Chicago, are fairly representative of the figures obtained at all the packing houses in Chicago:

	Dress.
Calves (skin on)	67.16
Sheep	50.98
Hogs	73.02
Canners	48.00
Shipping cattle	57.50
Baby beef	59.60
Average all cattle	54.79

Dominion Grange Officers

The officers elected to the Dominion Grange at their meeting in Toronto, were: Master, J. C. Dixon, Moorefield; overseer, John McDonald, Bendpath; secretary-treasurer, Wm. Benton, Applegrove; chaplain, Wm. McCrae, Guelph; lecturer, H. Glendenning, Manila; steward, W. Boake, Whitfield; associate steward, John Pritchard, Barrie; gatekeeper, W. C. Lessor, Aylmer; Ceres, Miss Waddell. Middlemarch; Pomona, Miss Thompson, Palmerston; Flora, Miss Philp, Whitby; lady assistant steward, Miss Hill; executive, W. E. Waddell, J. J. Morrison, J. A. Carswell, with master and secretary; auditors, T. H. Adams and W. Bertram.

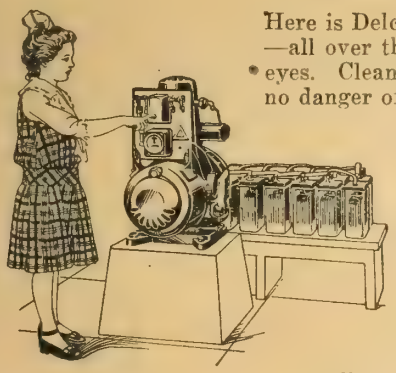
DELCO-LIGHT

ELECTRICITY FOR EVERY FARM

The Greatest Boon Since the Self-Binder

Life in the country has taken a wonderful step in advance with the coming of Delco-Light. Nothing since the self-binder has meant so much to the farmer and small-town dweller. Here, at last, is complete and economical electric light and power for every home that is now without it. No home in the world will now be more worth living in than that of the progressive farmer. Nothing that the big city offers is now beyond your reach. With Delco-Light country life becomes the preferred. It brings every comfort and convenience to the farm—saves money, time, labor for all the family.

Electric Light and Power



Here is Delco-Light—electric light—clean, brilliant, safe. Delco-Light goes everywhere—all over the house, in the barns and sheds, outdoors. Clear light, best for work and eyes. Clean light, without the labor of cleaning lamps and lanterns. Safe light, with no danger of fire.

Delco-Light is a pleasure, a convenience, almost a necessity. But Delco-Light power is even more. It earns its way. With the Delco-Light Power Stand you can do much of your chores by machine. Saves hours of time in milking, separating, churning, feed-cutting, washing, pumping water. Delco-Light is the most compact, efficient and simple electric-lighting plant yet developed. The main unit consists of a switchboard, combined electric motor and generator, and a gasoline engine. The other unit is a set of storage batteries. Each part is the simplest of its kind that will work efficiently. Little operating is called for, little adjusting. The engine is self-starting by pressing down a switch. Stops automatically when batteries are fully charged. Price of No. 208 is $390, and No. 216 is $465.

COMPLETE USE OF ELECTRICITY

The Delco-Light Power Stand will increase the usefulness of your electricity 100%. It is a compact, sturdy, efficient, portable motor, saving of current. Take it anywhere. It runs from the nearest light socket. It will operate all kinds of light machinery, saving you hours of time and labor.

FREE FULL INFORMATION—We have prepared several intensely interesting books telling all about Delco-Light—how little it costs, how much it does, how easy it is to install and operate. Send name and address for these books free.

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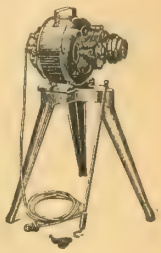
DAYTON **OHIO**

The same company that has made world-famous Delco-starting, lighting and ignition plants for automobiles.



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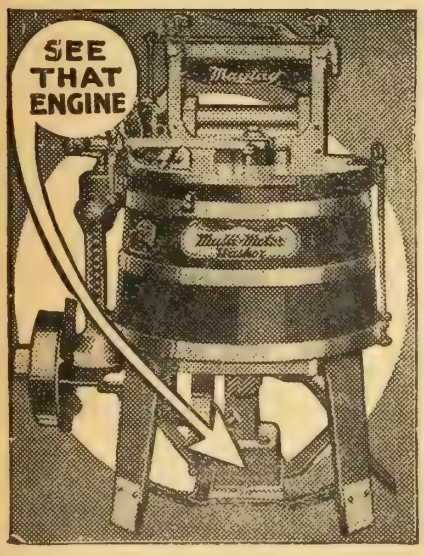
Maytag Multi-Motor Washer



Maytag Multi-Motor Washer Will Solve Your Power Problem

It will operate the sewing machine, churn, cream separator, or any other small machine that does not require more than one-half horse power. **Wash-Day**, and that is **Work-Day**, changed into **Play-Day**. Good-bye backache, headache, nerve wreck! No woman need bend over the wash tub, as her grandmother did, nor turn the old-style washer, as her mother did, if she has a **Maytag Multi-Motor.**

There is a Maytag Washer of every type—Hand, Power-Driven, Electric—all built to the enviable Maytag standard.

We furnish an Electric Motor on the Maytag Electric Washer, so that it runs perfectly when a "Direct Current" is used, such as the Delco, or other similar outfits.

Drop us a card, and we will mail you a copy of The Maytag Laundry Manual (48 pages). Even if you do not buy a washer, it will be a great help to you, as it contains many valuable formulas and recipes that can be used to advantage in any home. It is Free.

If you live in Ontario or Quebec, for full particulars write to White's, Limited, well-known wholesale hardware Co., at Collingwood.

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Don't put your money into any washing machine, until you have fully investigated The Maytag—at least be sure to write for the valuable Free Book — **"Maytag Laundry Manual."**

The Maytag Company Limited
WINNIPEG, MAN.

The Mother With Vision

By GENEVIEVE

"In purple and fine linen my country farm house shines,
The purple on the lilacs, the linen on the lines."

TO THE mind with vision nothing is commonplace. Every little whim or trick of nature has a charm of its own, even though it has occurred every year since time began. Every task, no matter how humble, has a significance that puts it in a class with the fine arts of the world. The advent of spring with its rush of farm work, heavier than ever this year since so many of the men are away will test the fibre of many a woman's idealism, but it is the idealist, the woman of dreams, who can make play of her work, who is not easily overcome by strain and monotony.

A girl, if she has the right kind of girlhood, is generally full of these dreams. She is ambitious. She wants to do something big—to paint a picture, or write a book, or do some social service work, when she finally launches herself permanently in domestic life, it is taken for granted that she will leave her dreams behind, that, so far as accomplishment and development go, this is the end of things, and yet——.

Suppose the girl wants to paint a picture; she has the creative instinct of the artist. She gets married and moves into her new home, a bare, colorless, little place somewhere off the highway. And at once she sets to work to make it beautiful. In a little grey room she hangs a blue curtain about the east window and stencils blue-birds on the grey burlap around the wall. She goes through the whole home working miracles of the same kind, and in the spring she plants roses under the parlor window and hollyhocks in the backyard. She may live on a farm on a back concession, but she has given the world a picture it could never have had without her. She has become one of the world's creative workers.

Or the girl has had fine ambitions to do some far-reaching social service work, and when she goes to her new farm home where she must necessarily be busy and where she will be more or less isolated from the crowds, people generally believe that she has shut herself away from making her influence felt in any large way. But the woman who has had dreams of her own can better understand other people and draw them to her; if she is sincere she holds them. Neighbors and friendless people, a hired boy or a girl who have drifted into the neighborhood come to her home and feel the atmosphere. They find it a living sermon to carry away with them. When her children are grown up and her ties at home are less exacting, when life will have given her a message for other women, she will find ample opportunities in the women's organizations in her own community. For the present she is doing social service work of a most lasting kind.

Or, let us say, the girl has a dream that sometime she would write a book. Almost everyone expects to write a book sometime before they die. In fact the world is full of people who could write good stories, but it takes a very superior character to live a beautiful story, and the woman is so busy living that she hasn't time to write. She is making a story which will always be among the world's classics, but she never thinks of that. She still keeps the ambition tucked away somewhere, until she look for the first time into the face of her little son. Then she sighs happily, "This is enough. Maybe he will write the book."

Twice again in her life she says the same thing. "Maybe he will do something great for humanity. Maybe she will be a great musician." And because their mother could imagine a picture and create it in the form of a beautiful home, or think a beautiful story and live it, the children also have dreams and the courage to make them come true. It's a wonderful thing to have a mother with a vision.

BORROWED WINGS

By FANNIE STEARNS GIFFORD.

In the little house all day
I go to and fro.
Once I used to fly away
And sing and dance and blow.
Up the hill-roads, down the brooks,
Somewhat free and proud,
Or scribble rhymes in secret books,
Wrought from wind and cloud.

In the little house all day
I go up and down.
I have hardly time to say
My prayers, or trade in town!
Curly-top and Wonder-Eyes!
Wild White Butterfly.
While your laughter shines and flies,
What need for wings have I?

—In Good Housekeeping.

Wm. Lloyd Garrison

Continued from page 16.

political protest from the North by the threat of secession. The prevailing attitude of the North, which has a singularly modern ring about it, is thus expressed by a leading New York merchant:—

> "Mr. May, we are not such fools as not to know that slavery is a great evil, a great wrong. But it was consented to by the founders of our Republic. It was provided for in The Constitution of our Union. A great portion of the property of the Southerners is invested under its sanction: and the business of the North as well as the South has become adjusted to it. There are millions upon millions of dollars due from Southerners to the merchants and mechanics of this city above, the payment of which would be jeopardized by any rupture between the North and the South. We cannot afford, Sir, to let you and your associates succeed in your endeavor to overthrow Slavery. It is not a matter of principle with us; it is a matter of business necessity. We cannot afford to let you succeed: and I have called you out to let you know, and to let your fellow-laborers know, that we do not mean to allow you to succeed. We mean, Sir, to put your Abolitionists down —by fair means if we can, by foul means if we must."

Thus was national morality dumb.

This was the situation when the *Liberator* began to proclaim emancipation, immediate, unconditional and without compensation. The appeal was made to the conscience of the nation, and, in spite of the smallness of the paper's circulation, soon made itself felt. The South was profoundly stirred. Bloodthirsty editorials, anonymous threats, offers of reward for the arrest of the editor of the *Liberator*, greeted Garrison. But he stood firm.

The next step was the formation of the New England Anti-Slavery Society, with an initial membership of twelve. Soon afterwards other similar societies were formed, and in 1833 a convention was called for the formation of an American Anti-Slavery Society. The Declaration of Principles adopted at this convention was written by Garrison between 10 o'clock at night and 8 o'clock in the morning. It is too long to quote here but is well worth careful perusal.

In the same year, 1833, Garrison visited England, where he met several of the British Abolitionists, among whom was Wilberforce, then nearing his death. Two years later George Thompson, the British Anti-Slavery Lecturer, was brought over to assist in the crusade in the United States. At that time the prejudice against Englishmen was strong, and Thompson's presence aroused a storm of fury, even in Boston itself. A mob, seeking to capture him at a meeting, and missing him, laid hands on Garrison, tore off his clothes and dragged him through the streets with a rope round his body. He was rescued by the Mayor, who lodged him in prison, where he spent the night, and where he wrote the following inscription on the wall of his cell:—

> "William Lloyd Garrison was put into this cell on Wednesday afternoon, October 21, 1835, to save him from the violence of a *'respectable and influential'* mob, who sought to destroy him for preaching the abominable and dangerous doctrine that *'all men are created equal,'* and that all oppression is odious in the sight of God. 'Hail Columbia:' Cheers for the autocrat of Russia and the Sultan of Turkey: Reader, let this inscription remain till the last slave in this despotic land be loosed from his fetters."

Elsewhere abolitionists were maltreated and their property destroyed. But

A Vast New Land Waiting for You

Settle in Northern Ontario

Opportunity awaits the man who will strike out to the rich, fertile land of Northern Ontario. Millions of acres of virgin soil obtainable free, at a nominal cost, are calling for cultivation. This land contains immense resources in timber, mineral, water-power, fish, game and scenery, and is one of the greatest expanses of fertile territory in the world. This land calls for men to cultivate it; in return it will give health, comfort and prosperity. Thousands of farmers have responded to the call. How about you?

For full information, as to terms, regulations and settlers' rates, write to

H. A. MACDONELL, Director of Colonization

HON. G. HOWARD FERGUSON
Minister of Lands, Forests and Mines

Parliament Buildings
TORONTO, ONT.

BOVRIL
gives
Strength to Win

"PAY YOURSELF FIRST"

THAT'S RIGHT—every day you work our plan, your pay is given you. "Pay yourself first," that's the idea of our representative plan. When you devote ten hours daily acting as our representative—your pay is sure and certain.

We need a hustling representative right in your district. A young man capable of producing good business, preferably one with salesmanship experience. The position will pay big money to one with enthusiasm, energy and ability. Do you know, or are you such a man?

If you *are* and are willing to exchange *your spare time*, representing our publications, *we will* show you how that same spare time, properly used, *will produce* for you as much *cash* as your regular income.

Does this interest you, if so write us TO-DAY and we will tell you all about it.

THE MACLEAN PUBLISHING COMPANY, Limited
143-153 UNIVERSITY AVENUE, - TORONTO, CANADA

Garrison remained serene, and confident in the justice and ultimate success of this cause.

In 1838 Garrison went forth as travelling missionary and before long thirteen hundred anti-slavery societies were distributed throughout the Northern States. He was joined by such men as James Russell Lowell, Edward Quincy and Wendell Phillips. The opposition was, however, still strong in the North, and the Church indifferent. The South was thoroughly roused and was acting on the offensive. The abolitionists, therefore, had plenty to do in maintaining their cause.

The attitude of the churches was a bitter disappointment to Garrison. He had been a warm supporter and a devoted member of the Church; but when he fully realized that it was determined to support slavery he broke with it and denounced it in scathing terms. Thenceforth he was branded with the name "infidel," because as his colleague May remarked, the Anti-Slavery Movement "had outstripped the churches of the land in the practical application of Christianity to the wants, wrongs and oppressions of our own age and our own country." Gradually, however, the leaven spread. The churches began to show sympathy for the cause, and the movement went forward with increasing momentum.

Now that the moral force had gathered, the important question which next arose was that of giving it political expression. The constitution sanctioned slavery, and there was clearly no prospect of any peaceable amending of it. Disbelieving in the use of force, Garrison was, therefore, driven to demand the dissolution of the Union as the only way of ridding the North of slavery and avoiding civil war. He even denounced the constitution as a "covenant with death and an agreement with hell." Lincoln, however, who maintained that the Union must ultimately be all slave or all free, saw farther than Garrison, and perceived the fatal truth.

In 1847 Garrison went West into Ohio, meeting with varied receptions. Generally the people were friendly and the Church hostile. The danger from mobs was, however, not yet over and in 1850 Garrison was roughly treated in New York. But the movement grew apace in the North and was assisted by a general recognition of the brutality of the new fugitive slave law passed at the dictation of the South. The North generally refused to execute this law, and thus defied not only the South, but the constitution. The threat of secession made by the South was, however, not seriously taken, even as late as 1857. But after this events moved rapidly, and almost before it was realized the great struggle for Liberty and Union had begun. Ostensibly to preserve the Union it was essentially a war to abolish slavery, and depended in large measure upon the moral crusade which Garrison had led.

AFTER THE WAR.

After the war was over Garrison withdrew the *Liberator* and retired into private life. His work was done, and he knew it. He closes with these words "I began the publication of the *Liberator* without a subscriber, and I end it—it gives me unalloyed satisfaction to say—without a farthing as the pecuniary result of the patronage extended to it during thirty-five years of unremitted labors."

The life of Garrison was stormy but happy, and eminently successful. He had obvious weaknesses; but for moral fervor, freedom from personal ambition, and life-long devotion to duty he had few equals. And the service which he performed for the United States of America was incalculable.

The negro's fetters have been struck off, but the spirit of slavery is not dead. It appears disguised in successive reincarnations. It will not die. For where injustice and oppression exist there is the spirit of slavery. Sixty years ago, every Fourth of July, American orators declaimed of liberty and equality and the inalienable right of man, and recited manifold evidences of British tyranny, blind to the fact that a large proportion of their own population was in degrading bondage. Are not we blind also, who boast of British freedom and British institutions while speculators and grafters fatten upon the toil of the masses and coin money from the blood and tears of a nation's agony. There is need of another Garrison, to proclaim in trumpet tones the degradation of our mammon worship, and to call this nation to repentance.

Special privilege is our modern slave-owner. He counts his victims by the tens of thousands. He has bought up the press and has silenced the pulpit. His sinister influence reaches out to the schools. Craven politicians are his instruments. "Prosperity" is inscribed on his banner, but ignorance, poverty, disease and corruption are his works.

Who will dare to speak the truth, come what may? Who will proclaim that land gambling, and stock-watering, and rake-offs, and special privilege legislation are odious sins and oppressions? That "business necessity" is but a cloak for our greed? That political partisanship with its debasing system of patronage is criminal folly and disloyalty? Who dares to become a voice crying in the wilderness will need to be another Garrison, for the task is great and the journey long. He will have need of faith to see the final victory, for he who goeth forth sowing good seed shall, in God's good time, reap abundantly.

How To Stop Egg Eating

Egg eating may be stopped by the following method: Catch the culprit and put her in a coop, then put an egg through the bars that has been blown and filled with mustard. If other chickens have developed the same tendency, the best way is to put several of these eggs on the chicken yard.

THE RETURN

By CHRISTINE M. ALEXANDER.

Gold the cornfields in the valley,
Golden red the wooded hill,
And the golden sunbeams dally
Over lake and stream and rill.

Through the trees I see the gables
Of my cottage—of my home!
Fill the tankards, spread the tables,
Never more, Love, will I roam.

Red the apples in the orchard,
Red the maple by the gate,
But these lips so strained and tortur'd,
They are white—I come too late.

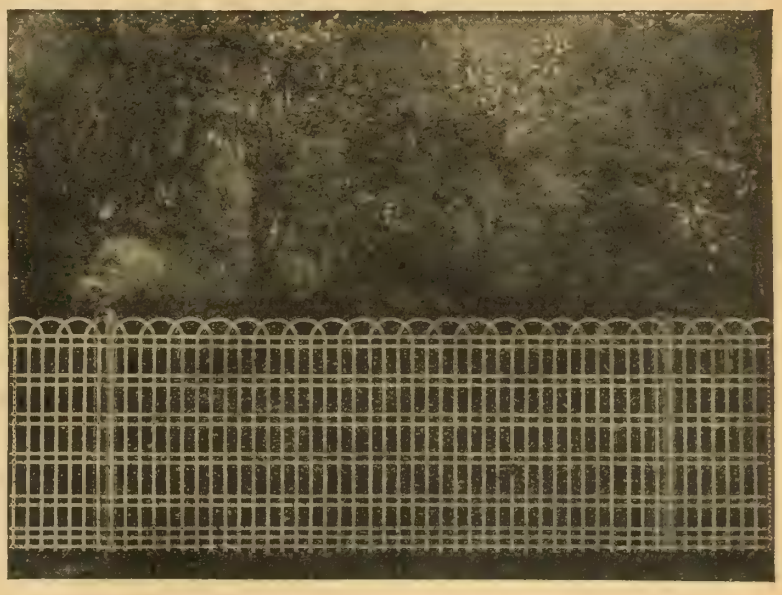
Made In Canada

ARROW COLLARS

FIT EXTREMELY WELL AND GO WITH THE PREVAILING STYLE IN BROAD END TIES AND FOUR-IN-HANDS PERFECTLY

15c each 6 for 90c

CLUETT, PEABODY & CO., Inc., Makers, Montreal



For Private or Public Grounds

IDEAL FENCE

This "Ideal" Fence is ornamental, neat in appearance and strongly built. It is well suited to lawns, private grounds, parks or other places requiring a sturdy artistic fence.

"Ideal" Lawn Fence

is made throughout of galvanized wire in many different artistic designs, with ornamental gates, completely equipped, to match each design.
The "Ideal" Lawn Fence booklet shows and describes the different styles and explains the many advantages of a Wire Lawn Fence over either an Iron or Wooden Fence.

Free illustrated booklet sent on request.

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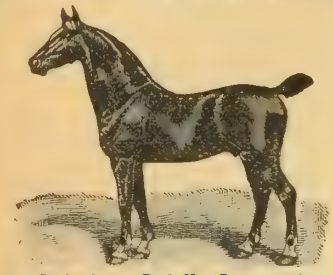

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When you buy a ton of fertilizer remember you are buying what is in the goods and not merely two thousand pounds.

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COLLINGWOOD SHIP-BUILDING COMPANY,
LIMITED
COLLINGWOOD - ONTARIO

Our Organized Farmers

A CHAIN ACROSS THE DOMINION

The United Farmers of Ontario.

The annual meeeting of the United Farmers of Ontario took place in Toronto the last week in February. It was the livest, best gathering of farmers that Ontario has ever seen. Like its sister organizations in the Prairie provinces, this organization showed debating strength and progressiveness that would do justice to any group of men. That farmers can think clearly, and express themselves forcibly was clearly evidenced. They handled questions of policy, matters of executive and political questions in a broad spirit. This was particularly evidenced in their better organization, in the way they settled the relations that should exist between the U.F.O. and the U. F. Co-operative Co., and in their adoption with an amendment of the farmers' platform laid down by the central body, the Canadian Co of Agriculture at Winnipeg.

President R. H. Halbert, of Melancthon, presided. Addresses were delivered by Roderick McKenzie, Hon. Sec. Can. Council of Agriculture; Pres. H. W. Wood, of the United Farmers of Alberta; Manager C. Rice Jones, of the Alberta Co-operative Elevator Co., and T. A. Crerar, President and Manager of the United Grain Co., of Winnipeg, as representatives of the Western forces.

Pres. Halbert struck an optimistic note in his address, as to the future of the farmers. In working out their own salvation farmers must co-operate, he said. The day of individualism was past; the day for united action had come, and in anything looking to a scheme for unity of action farmers were still in the kindergarten stage. Farmers must work out their own problems and stand independent of scheming politicians.

Real discussion and able direction characterized the debate on the Farmers' Platform. Most of it went through easily, but the part relating to reciprocity. The chairman favored a careful policy, and soon the temper of the meeting showed that they wanted no shilly-shallying with the situation, as E. C. Drury, of Simcoe Co., put it. By a unanimous standing vote, the platform, with the addition of clause asking for the submission of the question of reciprocity with the States, to a popular vote, was heartily adopted. It was a real farmers' spirit that strained at every point. Agriculture was their view point. Party politics did not count much with these fellows.

Secretary J. J. Morrison in his report showed that during the past year 74 subordinate bodies have been formed, and altogether 200 of such associations are affiliated with the central organization. Approximately 8,000 Ontario farmers are enrolled in these local associations. There are local organizations in 43 counties. Oxford leads in the matter of organizations with 16 local associations, Wellington comes next and Dufferin third. The largest single club is at Whitevale, in Ontario county, with over 120 members. —F.M.C.

Spice From the U.F.O.

There are only 14 farmers out of 200 members in the Canadian House of Commons.

H. J. Pettypiece, of Forest, said that 51 out of 53 countries outside Canada have State-owned railways.

The people of Canada have paid $1,017,000,000 towards the construction and maintenance of our railways.

"In Canada we have no statesmen," said Col. Fraser, of Brant, "they are all politicians."

Gordon Waldron, solicitor for the United Farmers' Company, claimed that taxation had fallen too heavily on agriculture. Ontario had lost 167,000 people from the land in the last five years.

The combined farmers of Eastern and Western Canada have a membership of over 50,000.

F. E. Ellis, of Halton county, explained the initiative and the referendum.

There is something sinister about the whole question of campaign funds. No donor has any objection to publication of his givings to patriotism and Red Cross, said W. C. Good, of Brant County.

R. H. Halbert said he was a Tory, an Irishman and a Methodist, and that they all knew where he stood. He managed to keep his coat on most of the time.

H. W. Wood, President of the United Farmers, of Alberta, is a big man from Missouri. His life as pictured in the FARMERS' MAGAZINE in February was a true one. He is a big man.

C. Rice Jones, manager of the Alberta Co-operative Elevators Co., is a young man, but he thinks for himself. He advised against a third political party. Rather would he keep the two old ones guessing as to where the farmers were.

T. A. Crerar, President of the Grain Growers' Grain Co., was the plain hard talk of a real leader to his fellows. Our politics, said he, are bad because the public conscience was not awake. More public spirit is needed.

The U. F. Co-operative Co. did over $500,000 business in Ontario last year. There were 183 stockholders in the company.

We are being hampered by some manufacturers and wholesalers, said Manager E. C. Burney, but we are going to win out.

A photo taken on the grounds of the St. James Cathedral, shows over 500 farmers. It is sold for $1 and measures about two feet wide. It is an excellent picture.

The Co-operative Co.

It was decided to change the constitution so as to elect nine in place of thirteen directors as formerly, and have these all elected annually in place of three dropping out each year. The new officers elected were as follows: Directors: C. W. Gurney, W. C. Good, J. J. Morrison, E. C. Drury, R. H. Halbert, W. McRae, Guelph; E. Lick, Oshawa; B. C. Tucker, Harold; E. A. Van Allen, Aultsville. B. C. Tucker was afterwards elected Pre-

sident and Elmer Lick, vice-president. C. W. Gurney was re-appointed manager and J. J. Morrison, secretary.

B.C. Farmers Organize.

The farmers of British Columbia are coming ino line with the other farm movements in the prairies and in Ontario. At a recent conference, members of the Canadian Council of Agriculture were present.

Grange Meets

The Dominion Grange met in Toronto at the time of the annual meeting of the United Farmers of Ontario. At this meeting Henry Glendinning, of Manilla, recalled his presence at the organization of the first grange at London in 1874. Others speakers were J. J. Morrison, R. H. Halbert, John Pritchard, Miss Robinson and Miss E. M. Chapman

Miss Chapman gave a short account of the work being done by the Women's Institute and other rural women's organizations, which she said are doing all they can in constructive lines at this time when men are doing so much to destroy. She opposed the idea of Canadian women undertaking the rough work of the farms, explaining that they are not fitted for it physically as are the farm women of the European countries. "Moreover," she said, "women can not afford to go into lines of work that will make home less attractive." Miss Chapman advocated the better development of the "play spirit" in rural communities as a means of keeping the people on the lands.

U.S. Grange.

The National Grange of the U.S. recently met at Washington in their Golden Jubilee session. The entire 10 days were crowded full of interesting matter. Some ideas of their doings may be gathered from the following paragraphs.

Rum business denounced from every possible angle.

Overwhelming indorsement of woman suffrage by national constitutional amendment.

Proclamation issued showing farmers' relation to the high cost of living.

Strong declaration against compulsory military training in the public schools.

National embargo on any food products declared to be injustice to the farmers.

Strong resolutions for conservation of nation's natural resources.

Higher rates called for in fixing the Federal tax on big private incomes.

Free seed farce condemned in most sweeping language.

Grange declares for municipal slaughter houses and for state and municipal distribution of dairy products.

Approval of new Rural Credits Act and a purpose to give it a fair trial.

Refusal of Grange indorsement for government ownership of railroads and for the initiative and referendum.

Opposed operation of government liquor licenses in "dry" states.

Demanded recognition of agriculture in make up of a new tariff commission.

Opposed one cent letter postage until other postal improvements are completed.

Favored Federal or state licensing of all commission dealers in food products.

Indorsed Casey bill for developing uses of denatured alcohol.

Demanded Federal legislation to prohibit all election gambling.

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The QUALITY of Sarnia Fence is, we believe, unrivalled in the Dominion. We use full Government Gauge wire, and the best galvanizing obtainable. The best industrial experts pronounce our factory to be the best equipped, and most economical in America.

The PRICE of Sarnia Fence you will find by comparison with catalog houses, and your dealer's price is considerably the lowest on the market. This of course, does not apply to old rusty fence which has been stored outside for three or four years, but refers to new fence such as shipped by us.

For prices delivered in Quebec, Maritime Provinces, and New Ontario add 3c per rod to the prices offered below, 25c advance for gates and stretcher, and 10c for staples and brace wire.

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6-40-O	6	40	9	9,7,7,8 9 9	7½	34c
7-40-O	7	40	9	5,6,6,7½,8½	8½	38c
7-48-O	7	48	9	5 6 7,9,10,11	9	38c
8-40	8	40	12	5,5,6 6 6,6	10½	47c
8-48	8	48	12	4,5,6,7,8,8 9	11	49c
9-48-O	9	48	9	3,4,5,5,6,8 8,9	11	50c
9-48-OS	9	48	9	6,6,6,6,6,6 6,6	11	50c
9-48	9	48	12	3 4,5,5 6,8,8,9	12	54c
10-50	10	50	12	3,3¼,3½,4¾,5½,6 8,8	13¼	60c
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FENCE PUT UP IN 20, 30 AND 40 ROD ROLLS ONLY

Walk Gate, 3½x48": each ..... $ 2.75
Farm Gate, 12'x48": each 5.25
Farm Gate 13'x48": each 5.50
Farm Gate, 14'x48": each 5.75
Farm Gate, 16'x48": each 6.25

Staples galvanized 1¾" per bag of 25 lbs. 1.20
Brace wire, No. 9, soft, per coil of 25 lbs. 1.20
Stretcher, dbl. draw single wire stretcher and splicer 9.50

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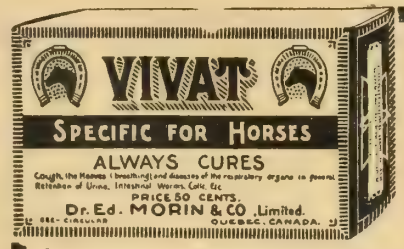

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The farmer pockets money by the use of these two preparations.

VIVAT is a good friend and remedy for horses and saves the farmer money that otherwise would go to the veterinary. **VIVAT**—cures Coughs, Heaves, Broken Wind, etc. Beneficial in cases of Colic, Intestinal Worms and Kidney Troubles. Special directions for each case. A great remedy for the Respiratory Organs. It also increases appetite, gives vigor, breath and endurance, specially to race horses and those travelling and working hard

OMAZON—is a splendid stock food—entirely Canadian. It is a great invigorator and gives added endurance. Its nutritive qualities make it a desirable food wherever stock is kept

It is a great blood purifier. It prevents and cures diseases; unequalled for increasing the quantity and quality of milk in mare and cow. Put it to the test and you will find it a great economy. When mixed with food it cuts down the usual amount of grain required. Remember the names VIVAT —and—OMAZON.

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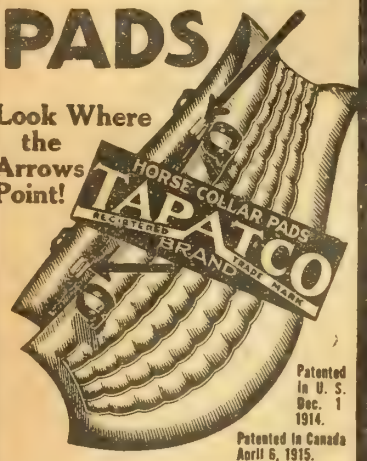

Our new staple and felt reinforcing device gives the hooks a larger, firmer hold on the pad and keeps them from coming off easily. It adds to life of the pad and satisfaction of the user. This form of attachment is

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April's Work on the Farm

Some Observations

Uphold the dignity of your work. It is the biggest work in Canada.

Delays in spring work occur less frequently on well managed farms.

Co-operation is a much abused word. Can you define it?

President Wood, of the U.F.A., believes much in the evolutionary development of social and economic systems as well as the spiritual.

It never pays to connive at another's downfall, even if the other is apparently wrong everyway.

Horse breeders societies are being formed in various parts. Better horses are sure to follow such a move.

The Ottawa Government is quite right in discouraging the agitation for oleomargarine. This is a dairy country.

New Brunswick Liberals will be well advised in paying much attention to better distribution methods of farm products. Production advice is being given in many parts *ad nauseam.*

Farmers' conventions are often overburdened with speeches from other organizations where a 5-minute speech would be ample. All reforms should come from within.

If farm women vote as they should, there will be more farm house conveniences, better farm houses and a higher rural life level in the near future.

Horse Talk

Watch the colts' feet before they go out.

Adjust the traces to the length of the horse.

Breed to the best drafters you can get.

Work the in-foal mare steadily, but not at too straining or tiresome work.

Feed oats, 5 parts, and bran, 1 part, in the proportion of 1 lb. to every 100 lbs. of animal's weight per day.

High leather prices demand every care to be taken of the harness. If March work has been done well, they will have been thoroughly oiled

A horse that does not eat its food is wrong someway. Watch for teeth troubles as well as other danger signals.

During the spring's work, wind up the week's work with a good bran mash.

In the Dairy Stables

The dairy business is a sure one. No changes in social or political forces can put it out of business.

In building new dairy barns, much common sense is needed. Expensive advice often proves so.

The sire is more than half the herd and such good sires as some herds are proud of are worth really big sums.

Keep a good stout staff on the bull. Be kind, do not worry him but never trust him.

Feed laxative, easily digested food to the cow that comes in soon.

Toughen your cows by daily exercise in the open on warm sunshiny days.

Why not keep pure bred cows exclusively? The breed you like is the one for your success.

A milking machine properly used is a big saving in time and labor on the farm.

The Beef End of It

Beef prices justify the men who paid in good stables last fall.

I saw a carload of fine type shorthorn grade, 725-lb. feeders, go out of Toronto last November for 6.40. This hunch will make some nice returns in May.

Don't overload the disinfectants in the stable. Lice and all vermin cost too much.

Molasses will supply the succulence for April that your empty silo refuses.

Two or three acres of a supplemental green pasture will be a wise provision this spring.

Generally speaking the more grain we thresh the poorer the eastern farmer gets.

Wool and Mutton Producers

A man constantly with the sheep during the lambing period amply repays the time.

Rub an inflamed udder with a turpentine and lard salve.

Clip off all loose tags around the sheep's udder.

Ontario has fallen into line in the wool grading business. Growers should inquire of the Department of Agriculture as to the places to ship to. Best prices are assured.

Why should wandering jews be our biggest wool markets? Co-operate in selling and get all the profits.

There are different forms of garget or caked udder; congestion with milk chilling or bruising of udder and infection. The latter is the most serious.

In the milder forms of garget, carefully drain off all milk and apply ticture of belladonna or tincture of iodine. Feed very lightly.

The sheep louse is not as common as the tick, but it is found and yields to the same dips.

The Spring's Work

Keep the stock off the meadows during the month.

Sow grass seed in the thin spots in your meadows.

Be sure your new seeds are clean of foul weeds.

Sow salt on the old sods you plow up this spring, to kill grubs.

Sow some rape, kale or cabbage for supplementary feeds for sheep and cattle.

After the field is sown, be sure to plow some drainage furrows for the sudden downpour.

It is poor policy to get to work too soon on a clay soil. There is a time when it is just right.

Sow mangolds early and be sure your drill is the right kind. Soak the seed for a day then sprinkle with road dust to assist in sowing.

Fertilizers are necessary for successful potato crops in most sections.

All fertilizers should be on hand now.

Roll the sown field to make a firm seed bed, then harrow lightly to prevent evaporation.

Production should be as great as possible on every farm from a personal as well as a national standpoint, for good prices are almost certain.

The earliest sowings of oats, wheat and barley pay the best, but generally peas do best a week or so later.

Treat with bluestone for smut and save the value of your seeding.

What about the outlets for the drains? A good drain is often defeated by a bad outlet.

A man will be pardoned for planting little potatoes this year. It is not a good rule to follow, but there's a reason this year.

Talks About Fruit and Trees

A prompt cutting back may help to save peach trees that have been frozen.

If nursery stock arrives in a frozen or dried out condition, bury them for a short time in the ground.

Cut out the suckers around the base of the tree as they are robbers.

The first spray should be put on apple trees just as the leaves are about as big as a 5-cent piece.

Do not prune grapes after the sap starts to rise.

Cut back one-third of last year's growth on gooseberries and currants and thin out diseased shoots. Old bushes may have two-thirds of last year' growth removed.

Cut back raspberries and blackberries, and break out all last year's cones.

Stand by your orchard. It will pay you well for all your trouble.

In burning brush in the orchard remember that trees are tender and are often harmed by the heat from a too-close fire. A good way is to make a small fire and pile the brush on as you gather it.

Cut all grafting scions before the sap begins to move. Store them in moist sand until you are ready.

Plant your trees as soon as the land is dry enough.

Give us your experiences with dust and liquid sprays.

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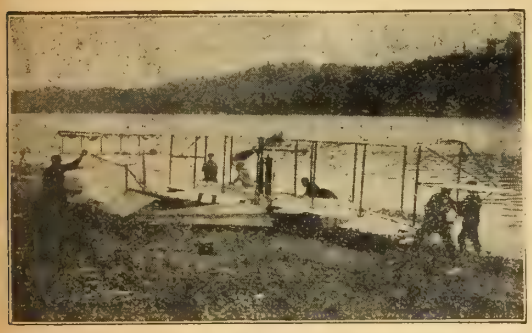

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Business of Farming

A Convenient Barn

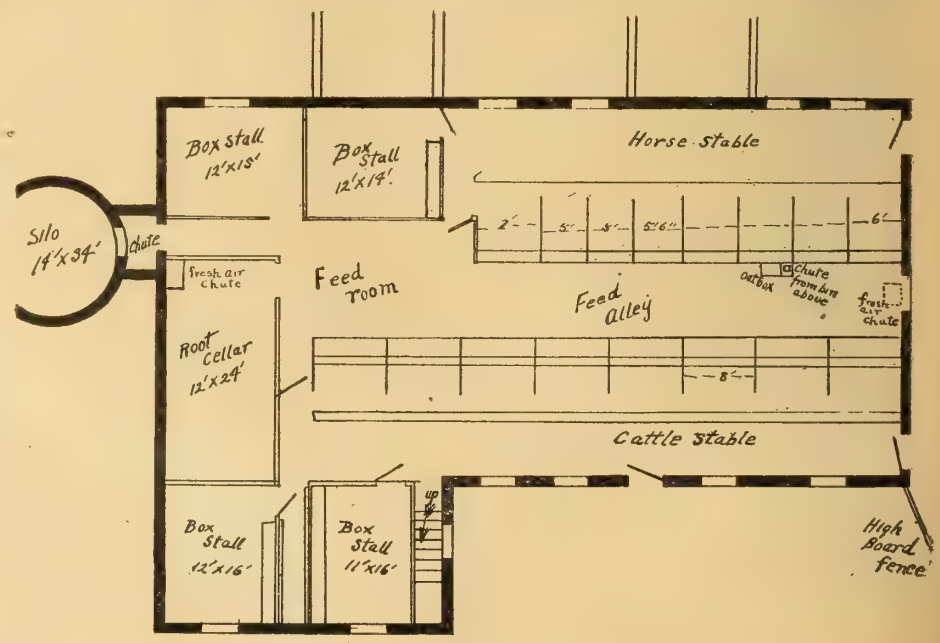
THE plans and pictures accompanying this article are of a barn built for a 200 acre farm. It has been found very convenient and satisfactory.

The main structure is 40 ft. x 80 ft., with extension 16 ft. x 30 ft. feet, inside measurement. The basement wall is of concrete and stone, the superstructure is of steel .

The basement contains stabling for 8 horses, and 16 cattle, in stalls, with 4 box stalls. Root cellar 12 ft. x 24 ft. in size; a large feed room and alleys. The silo is 14 ft. x 34 ft. with capacity of approximateiy 109 tons of feed. The floors in basement are of concrete, with rough surface finish. The floor in horse stable is marked off in squares. The floor in box stalls are of plank.

The stalls in cow stable are 8 feet wide by 5 feet back to gutter from manger. Partitions are short, only reaching back

Steel barn on a 200-acre Ontario farm.



Interior lay-out of barn shown above.

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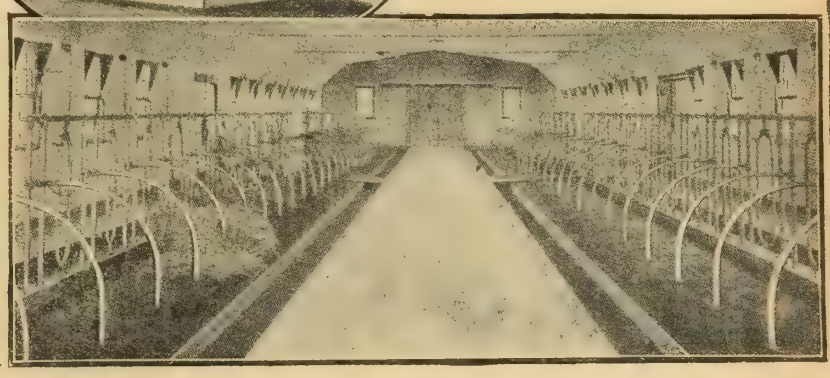

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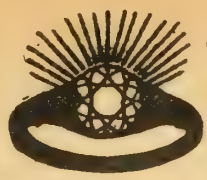

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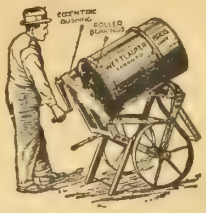

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MRS. JARVIS, BOX 286, PENETANG, P.O., ONTARIO, says: "It is a pleasure to write and tell you what Dr. Cassell's Tablets have done for my baby. When only five months old he was taken ill. I had medical advice for him, and was told he had colic, for which he was treated, but he did not get any better, only worse. I tried several special foods, but none of them would stay on his stomach, and he became so thin that he seemed just skin and bone. He only weighed ten pounds. We never thought poor baby could live, but one day I chanced to hear of a baby's case almost like mine, that had been cured by Dr. Cassell's Tablets, so I got some for my baby, and I am thankful I did. After a few doses the nervous jumps he had suffered from stopped, and soon he was almost well. I have given him the Tablets during teething, and find them very soothing. He is a bonny boy now, quite cured, and weighs twenty-five pounds at twelve months old."

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Every mother should know that Dr. Cassell's Tablets are just as suitable for children as they are for grown-up people. Their splendid nutritive and vitalising properties soon overcome any tendency to nervousness or weakness in the little ones, and lay the foundation of a strong constitution for after years.

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to just behind the cattle's shoulders.

The mangers, or racks, are of 1 inch lumber, with 2 x 4 inch uprights. They are built low with slant toward feed trough. The tops are only about 3 feet above alley floor. A feed trough one foot in width is built below rack, an open partition of three eight-inch boards, is built between the two.

The stalls in horse stable are of various widths. The first four being 6 feet wide for the heavy teams.

The large windows in stable admit plenty of light and fresh air. The stable doors are built of one inch pine, tongued and grooved, thereby making a very neat door. A quarter-door is built in top section.

The small oat box in alley is filled, by chute, from the large bin above. This has been found very convenient. Foul air ducts are installed as seen by diagram.

The upper structure is of steel on frame of timber. The roof was sheathed with old siding under the metal.

Numerous chutes to basement are installed. The granary is large with sliding doors at each end. It is lined inside with plain sheet metal. The drive floors are 14 feet wide with two 16-foot mows, and one 20-foot mow in centre.

This barn has been built since 1914, and has given the best of satisfaction.

The Neighborhood Help Exchange

Every sign indicates that the help problem will be more acute this season than it was during that of 1916. The battle of liberty has not yet been fought to a successful issue, and till that day dawns every fit man will be required for defence. This means that those who remain on the farm must prepare for such a utilizing of labor that no work will be neglected and that none will suffer. Not only must each individual farmer lay his plans so that all his own farm help will work to the best advantage, but each neighborhood will find it of immense advantage to form itself into groups so arranged that each portion of work will be done in time and so soon as the work is ready.

Some localities found such an organization of decided advantage in 1916. A definite agreement was entered upon by which each party to the agreement was allowed definite credit for labor performed. The aim was to keep the season's business on a cash basis. A man's labor was rated at, say, two dollars per day. A man and his team was rated at five dollars per day. At the expiration of a day on which an exchange had been made credits were made and regular accounts kept. At the close of the season accounts were balanced and everything adjusted on a good business basis. In this way hard feelings arising from misunderstandings were avoided and each man got his due. A very little experience revealed the selfish neighbor—much to the selfish neighbor's loss. Good business methods obviated the possibility of any one's suffering loss.

Farmers will do well to proceed carefully in this matter of labor exchange, as some men have a way of imposing on the good natured. The keeping of good accounts, and of counting the time of labor in hours actually spent in labor will save a great many heartburnings. In other words, the labor exchange is as much a matter of business as the selling of wheat or barley, and its purchase as much a matter of dollars and cents as the pur-

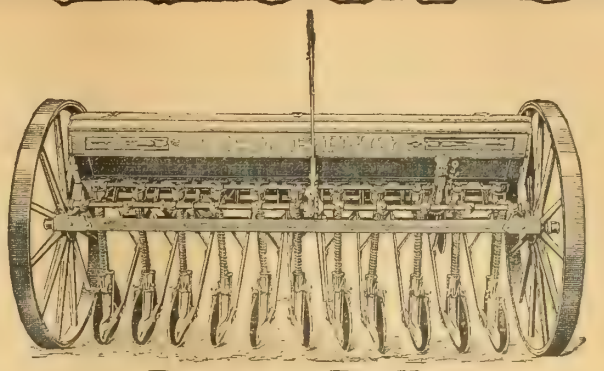
chase of salt. The men who see this most clearly and who act on it most consistently are the men who find the labor exchange working to their best advantage.

The advantages of such a labor exchange are many and obvious. For instance, one neighbor's field is ready for planting or sowing before that of the other parties to the exchange. His field is sown when it is ready and all are ready to assist the man whose fields are next fit. The same applies to the harvesting and general cultivation and other work throughout the busy season. Such a neighborhood exchange is highly advantageous in a "catching" season. It is just the same principle as has been applied in the matter of silo filling and threshing bees, only it is now adapted to the whole of the larger farming operations.

There are difficulties in the way of making this neighborhood exchange a thorough-going success, but farmers have the gumption that overcomes hard situations. At any rate a grim necessity is urging all parties forward to make real sacrifices, and the farmer who studies his own welfare will do well to make a working agreement with such of his neighbors as he finds most congenial and be ready for the strenuous days that are almost here.—Andrew Kyle.

That Extra Hustle

A little extra hustle makes all the difference between sucess and failure. The extra grooming, together with a little more care in feeding and watering, adds the extra hundred pounds in weight per bullock, and a little more pains in securing the right price turns the scale in handling the fattening cattle. A few hours in special watching saves the three or four pigs in the litter that make up the profit in that bunch of hogs. The extra care in getting the pullets into their laying quarters and in keeping them supplied with abundance of chaffy litter wherein their food was buried deep meant plenty of eggs when eggs were selling from sixty cents to a dollar per dozen. The few extra scufflings last summer when the weather was hot and the ground parched kept the potatoes growing that sold this winter for two dollars and a quarter per bag. The fact is that we nearly all have equal endowment as far as opportunities and faculties are concerned. The difference consists in the fact that the men who get ahead use their brain gray matter a little more than the rest of us and never stop hustling till they have made the very best possible out of themselves and of their opportunities. There are farmers this hour who have their potatoes sorted and the crates ready for sprouting the tubers while the rest of us have never even thought that the potato planting season is approaching. Some young farmers have taken the short course in agriculture provided all over the Dominion and already have their plans laid for more efficient farming while their chums have spent the winter days around the blacksmith shop and their winter evenings swapping yarns at the corner grocery store. The extra hustle will make the live wires useful men and honored citizens while the lazy fellows will mark themselves as those who see nothing in farming. Strenuous days are ahead for every Canadian, and the farmer and his sons will find themselves no exceptions.



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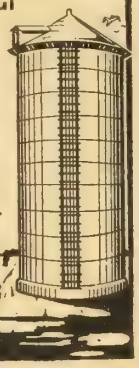

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The Art of Hospitality

Not Luxurious Environment, But the Personal Element Counts

By NORAH HENDERSON

THERE are, I think, few words more pregnant with meaning than that one of "hospitality"—few more misused.

It is a kindly word that should have kindly memories for us, that should conjure up dear, familiar ghosts of the past, kindly faces, and wide welcoming doors, gentle, sweet courtesies and scenes and places that stand out as landmarks on our road of life.

Is there not always waiting, somewhere, for you, some dear house wherein you may lay off the dusty garments and rest, forgetting the work-a-day world and all its care and worry, and, if only for a few brief hours think the thoughts that you would think and lead the life that you would lead? As you read this do you not conjure up a mental vision of that home that has wide open, welcoming doors, and of kindly hands made only it would seem to stretch out and pull one in, and with quiet unobtrusiveness to make one rest?

How strange a thing it is that this *hospitality* is only made up of a dozen and a hundred of the little ordinary things of everyday life, together with the magic of kindliness and the fine sieve of common sense. It is a thing so widely divorced from wealth and position, from overloaded banquet tables and powdered flunkeys that we must not speak of them in the same breath lest ignorance confuse the two! Hospitality can be found in the poorest cottage and missed in the largest mansion—it may be present at the poor man's supper table and absent from the plutocrats banquet hall.

A short time ago a friend of mine went travelling. On her journey she was to pass through the city where a childhood's friend lived, and was invited by this friend, whom she had not seen for many years, to stay over a day. My friend gladly accepted the invitation, for she was anxious to see what changes time and wealth and position (her husband was a prominent government official) had wrought in the simple girl with whom she had partaken of farmhouse suppers, and shared village gaieties.

Upon arriving at the city she was looking eagerly about the crowded station for a sign of the welcoming face, when an elegantly liveried chauffer, touching his cap and ascertaining her name, conducted her to a waiting automobile drawn up at the station. Her trunks in, they were soon whirling through the crowded streets to her friend's home.

Let me, as nearly as possible, continue in my friend's own words.

"Leaning back among soft cushions," she said, "I looked around me at the evidence of wealth, comfort and luxury the car portrayed; by stretching out my hand I could take a gold-tipped Eau de Cologne bottle from its satin case, beneath it a vanity case complete in every detail; on my left a hanging case held two or three beautifully bound little books. It was a car to make one content surely, and yet there was something lacking, something beside which these luxurious accessories were but the merest trivalities—it was the face of the girl I had not seen for twelve years!

When we pulled up in front of the house the door swung open and a man-servant running down the steps welcomed me up and into an expansive and impressive hall. I looked round eagerly, expectantly—the servant in his detached voice was saying: 'If madam would come this way—. Mrs. S—— had not yet returned from visiting' and still murmuring detached sentences led me up a wide stairway and along a wide corridor to a door where a maid waited. 'Madam will come in,' she said opening the door upon a beautifully furnished little boudoir where an open fire burned cheerily. An instant's first impression saw a vision of deep cosy chairs, of thick rugs, of exquisite water colors on softly toned walls. of—but the maid was leading the way across to an adjoining room. 'Madam's bedroom; madam's

Simplicity is the outstanding feature of the most artistic table arrangements.

bathroom'—another vision of beautiful furniture, of softly shaded lights, of luxury, of ultra—and the maid was saying, 'When madam requires me!'—and in explanation she touched a house telephone on a small table—'dinner is served at seven.'

"I was left alone, alone in the midst of a luxury I had not touched for years. I went from one exquisitely appointed thing to the other. This was what wealth stood for—this was the very epitome of self-indulgence—this was what one could give to their friends! And yet I would rather the Madge Clayborne of old had stood in her small doorway and pulled me in, than all the obsequious attentions of her retinue and the luxurious appointments of her mansion.

"For the next three-quarters of an hour I fidgeted about restlessly, every moment expecting the door to be flung open and my hostess to come in; but now it was half-past six and time to dress, and a few minutes later my demure little maid came silently in.

"While she was brushing my hair I could not help asking her whether her mistress had returned or not. 'Oh, but yes. Madam had returned an hour ago and was now dressing.'

"A few minutes later I was conducted to the large drawing room downstairs, and after a wait of a few minutes I confronted my erstwhile friend for the first time! She came very hurridly in, very profuse in apologies, very delighted to see me; but, oh, there was somthing missing, something that money had taken away from her, something that money and comfort and luxury could not make up for. It was the same through the long elaborate dinner and the hours following, and when the time came for us to retire, it was my little French maid that again conducted me to my room, her mistress I bade good-night to in her stately hall!

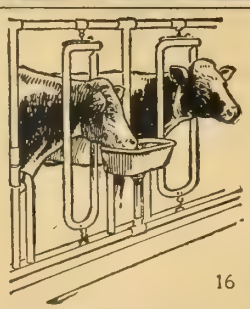
"The following day about four o'clock I went on my way. I had not seen my hostess until nearly mid-day. She always breakfasted in her own room and consequently thought I would prefer to do so also, and the best part of the morning had passed until I had another glimpse of her. She did not accompany me to the station. I was packed off in her limousine, and I left that house with no more feeling than that which one has on leaving a good first-class hotel."

Now that woman was not unkind, and I am sure she did not intend to be rude—she had simply *forgotten* how to be hospitable!

You see money had done so much for her, it had given her her beautiful houses, her horses, her many servants, her cars; that she had fallen into the great error of thinking that it could also give hospitality to her friends.

Do not mistake me. I do not intend to suggest that every wealthy home finds a parallel case. I have known many a one where money was but a useful adjunct to "that sweetness of ministering hands," just as I have known many a poor man's cottage where the actual absence of sufficient food could not detract from its hospitality.

Someone once said: "Hospitality is a divine gift of the Gods, and cannot be cultivated." It is a divine gift, but oh, it can also be cultivated, and it is not so difficult as one would think, for it only needs simplicity, a little cleverness and a



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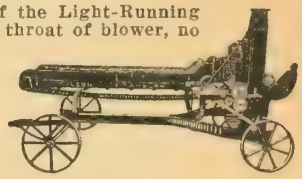

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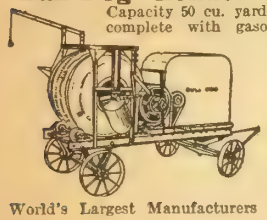
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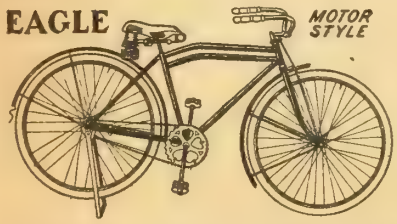
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large understanding, and unlike any other gift, to want it is to have it!

The other day I landed upon a country friend just at supper time. She is a busy woman (they have a large farm) and yet I felt none of the usual qualms upon intruding at this hour. I found her busy in her kitchen.

"I have come," I said, "to supper!"

"Go right upstairs and take off your things, then come down and do something for me," she answered back unperturbed. In a few minutes I came into the kitchen again.

"Now, I just want you to watch this pan for me while I run away for a few minutes,' she said.

In a very short time my friend reappeared carrying a magazine in her hand.

"Now, I want you to do something for me," she said with the air of asking a great favor. "Here is an article that we have had great arguments about in this house; would you mind reading it through and giving me your opinion on it?"

"Why certainly," I said taking the paper from her with interest.

"There, I knew you would; thanks ever so much—you will just have time before supper"—and I was propelled into the next room to a large, comfy-looking chair before a cheery little fire, which I could see had only just been lighted.

I suddenly realized as I sank into that luxurious chair, how tired I was, and what a quiet half hour would mean to me. I opened the magazine with interest and began reading the article, but gradually my senses became duller and duller, the letters began playing a sort of "general post" on the page—and the next thing I knew it was three-quarters of an hour later and my friend was tapping me on shoulder!

"Have you had a nice sleep?—supper's ready," she said.

When I left that evening I did not walk to the station—I was driven—and it was so fortunate, "because they had intended going up any way!"

Have you ever called unexpectedly upon the woman who shows only too plainly her surprise at your visit? Who says, "Why didn't you let me know you were coming. I've absolutely nothing to give you for supper!"

Or, "Now why didn't you come yesterday. I did have something decent to eat then, but I've been so busy to-day and I was so tired, and I didn't expect anyone and I just thought I would have a 'scrap' tea. Of course, I'm glad to see you. No, I didn't mean I was too tired to have you, but, of course, when you've washed all morning you *do* feel a bit 'fagged out.' No, indeed, now you're here you must come in. I dare say I can find something," and still murmuring incoherent and plaintive excuses, she drags you, by this time, very unwillingly into the house!

Do you know the woman who refuses or wards off your offers to "help" in something in this style?

"No, indeed, I wouldn't dream of your helping. I am going to make potato cakes and its such hot work and its no use *two* of us getting roasted. No, I would much rather you went into the sitting room and read a book. I get flustered when anyone's around. Of course, it's sweet of you to offer, but——." Yes, *but* it's very uncomfortable for you all the same, you hover uncertainly between two courses, to try and help her and run the risk of get-

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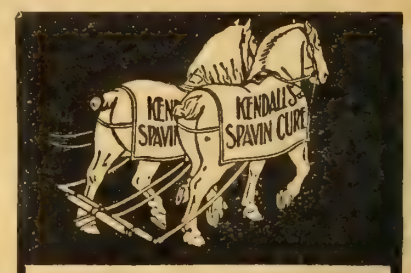

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ting her 'flustered," or else to go away and read your book with a guilty sense of having left her to "such hot work" and finally to be overcome with confusion and remorse when she appears half an hour later hot and red and "flustered" all the same and says: "My I *am* hot—you do look so nice and cool. No, I said I didn't want you to help, but, oh, dear, I am tired!"

Do you know her? Oh, I think we all do; and yet if when leaving her house, one were to turn round and say: "Since I came here I have never ceased to feel uncomfortable and I think you are most unhospitable," she would be most indignant, more, she would feel hurt! Yet you would only be saying exactly what you felt.

Now are you still wondering why I held my friend of the busy farm house up as an example of hospitality?

Do you not see how clever she was? She knew perfectly well that I would feel in an awkward position if I were not allowed to help her in some way, and yet she understood just as well that I was tired and needed rest, so she made me *believe* I was helping her. Yes, she actually did that!

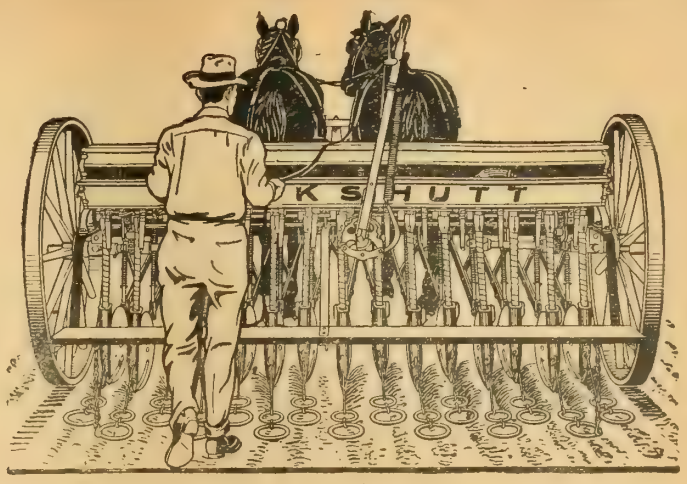
She did not bustle, she did not worr,y she made me feel *at home*—she was hospitable; and when I left she did not make me feel it an imposition to be driven to the train—"because they were going there anyway!"

I am glad to know that there are many more women of this kind in Canada today, but oh, I wish there were a great many more. We are nearly all familiar with the old German legend, where it was supposed that every thousand years Christ would re-visit, for one night, this earth, everyone sharing an equal chance that he might spend that night under their roof? The thousand years was passed and the day drew near when our Lord should come. An old woman in an humble cottage waited expectantly day by day, hoping against hope that He might deign to pass the night in that room, which with unceasing care and toil she had swept and garnished and in every way possible made acceptable for Him. The night was here and she sat before her fire, her heart beating faster at the thought of the miracle that might come to pass, when there came a knock at the door! Hurriedly she rose from her chair and unlatched it with tremblin~ fingers, eagerly she looked at the silent figure standing in the dark—was it, was it?—no, it was only an old man who begged piteously for a night's shelter from the storm an old man in rags!

"No," she told him very gently, "she could not let him in—any other night she would have done it willingly, but to-night the spare room was ready, waiting, for Christ to come!

The old man pleaded, he spoke of nights passed in the shivering cold, of fatigue, of hunger; and her heart was torn with the desire to give him shelter, but, oh, what if her Lord should come and find his room already occupied? No, no, she was more sorry than she could say, but she *could* not let him in.

Pitiously the old man turned away into the storm, when suddenly her pity and compassion overmastered her, suddenly the whole meaning of life became clear to her, the true religion, the true love of God—the example of Christ; I think that verse must have flashed across her mind: "If ye have done it unto the least of one



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Use every means available--
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Dominion Department of Agriculture

OTTAWA, CANADA.

HON. MARTIN BURRELL, Minister.

of these, ye have done it unto me!" For even the thought of the possible coming of Christ to her cottage could not allow her to send one of His children away into the cold and storm—hurriedly she ran out and caught the old man's arm and pulled him in, and—it was Christ!

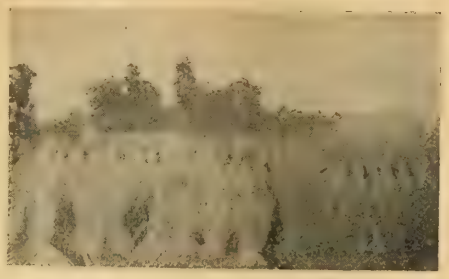
It is a beautiful legend is it not?

Can we not take the lesson home, you and I? Can we not give up a little of the time that we devote to those who pander to our tastes, and our amusement, and give it to those to whom it would really mean so much more?

Would it not be a very fine thing if our homes could fill the place of their now faraway one to that young man or young woman in our own small community, with whom people are too wrapt up in their own small businesses to worry about and to whom people are too, yes too, *inhospitable* to open their doors?

There is that young person in every community, do not blind yourself, he is in mine, and he is in yours! Do you know how he or she is, after the day's work going to spend the long, lonely evenings?

Because you do not know is no excuse that you should not care—do not think it "is not your business"—it is everyone's business to take an interest in the welfare of their fellow creatures; do not sit in



It is a pleasure to reap grain like this—on the Robarts' farm near Aylmer.

your comfortable chair and read your paper, and shake your head in righteous indignation at the crime and sin going on all around you. Ask that young man whom nobody cares about to your house *to-night* and ask him again and again and again, and show him what kindness is, and show him what goodness is, and show him what hospitality is, and no matter whether you sit in church every Sunday morning, or whether you stay away and cook that young man a decent dinner; no matter whether with self-righteous mien you respect the Litany, or whether you sit before a fire and crack jokes with him; you will be giving a cup of cold water in Christ's name, and He knows what the gift is worth!

Would it not be a very fine thing if twenty, thirty, even forty, years after, at some other end of the world, that young man would still remember that house that first showed him what hospitality was, could put his finger on the map in some out of the way little corner of Canada and say, 'There in that little farm house I learned my love of Home!"

There is a great opportunity waiting for every home in Canada, greater than anyone ever dreams of—many, many are letting it slip by every day, every year. Do not let yours be one of those, do not wait for our young man or woman, when all the time they are there beside you; do not miss your chance, do not sit in condemnation on the world's immorality, when you, even *you*, would not stretch out your hand to stay it!

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What Happened to an Old Farm

Showing How a City Man and Woman Became Back-to-the-landers

By EDGAR L. VINCENT

IV.

THE FARM FOLKS, AND OTHERS.

THEY tell a story of an old darkey that had a wild chase by the evil one. The old man ran for dear ilfe and when he was all out of breath he sat for a moment on the top of the fence resting, when Old Nick pretty nearly overhauled him, remarking as he came nearer to Sambo: "Well, you're a good runner, anyhow." The old colored man peeled his eye around in the direction of the voice and prepared to resume his flight, saying, "I hain't done nuffin' yet to what I'se a-gwine to do!"

After we had been on the farm a few years and every season had some building operation going on, one of the neighbors said she did not believe the Vincent's would be happy unless they were making some house or barn. But all this was only preliminary to the real work of the farm. Step by step we had been working up to branching out into stock and poultry. Like the old darkey, we had not yet done anything to what we were going to do.

Our first cows were three very commonplace animals, picked up around the neighbrhood. And when I say these were just average cows I mean no reflection either on the folks of whom I bought them or upon the cows. The fact is, at that time nobody in all that part of the country had any thoroughbred stock. If there was then a full-blood cow within three miles of our place I do not know where it was . One farmer living at that distance from us was just getting started with Jerseys, but when he had the nerve to ask ten dollars for one of his calves a few weeks old, the neighbors took a bee line for home. That was too much for them.

BUYS A PURE BRED HEIFER

I am sure it will not be thought conceited in me if I say that I brought the first thoroughbred calf into the part of the country where we lived. We were not satisfied with the average cows. We kept a close account with them and the most we could ever figure out that we got from them in a year, counting calves, milk, butter and all, was thirty-five dollars each. One day wife and I drove away to a farm five miles away and brought home a full-blooded Jersey heifer calf. She was a beauty, and became the best cow we ever had before or afterward. Some of her stock is still on the farm, and they all have a good many of the old cow's traits. For one thing, they can scarcely be dried off from one year's end to another.

At first we used a sire of the best common stock we could find in the neighborhood, but the time soon came when we were induced to pay ten dollars for a Jersey bull calf. Running some risk of being called crazy by the neighbors we afterward paid one hundred and five dollars for a bull and two heifer calves of the Guernsey breed, which we decided had some better characteristics than did the Jerseys. These cows, and the grades from them we still have on the farm. At present we have thirty head all told and they are beautiful and good. I believe the man who gets good stock into the neighborhood where he lives is doing about as great a thing as possible, not only for himself but for his neighbors.

We have the pleasure of seeing our stock scattered all about the section where we live now. Men who put us down as idiots and fools now come wanting our stock and paying for it.

A SMALL START IN SHEEP

But the cows were not all the stock we had. Little by little we got a nice flock of sheep started. The Laddie's grandfather had a way of giving every grandson a ewe lamb when the boy became old enough to take some care of it. That was the nucleus of our flock. We got one or two more ewes to run with Nan, as Laddie named his pretty little pet. There have been some pullbacks in the sheep business with the farmers of our locality. Dogs have made havoc with far too many flocks, and we have seen the sheep disappear from most of the pastures in this region. But it looks as if the present boom in the price of lambs, wool and mutton must bring them back, even if we have to place a heavy tax on dogs.

We found the pressure on our little plot of sixty acres growing so heavy that we felt that we must lengthen our stakes a bit, so we acquired fifty-five acres more, which was afterwards still farther augmented by the addition of an adjoining one hundred acres, making two hundred and fifteen acres in all. Then, too, we had to have more barn room and some way of keeping corn for feeding. For some time we had been cutting our corn dry for winter fodder, but there is some waste that way, so we built a good big silo, a comparatively new thing in that section.

MOTHER RUNS THE POULTRY

Still another thing which came to look good to us was poultry. When we bought the place, there were twenty-five hens there, like the cows, very commonplace fowls. I have forgotten just what we paid for these, but it seems to me it was about twenty-five cents a head. From the beginning wife had the care of the hens. Not that I did not like them, but she wanted to look after them, and it did her good to be out and look after the birds. She was very careful about setting down the number of eggs she gathered every day, and also of the number sold and the price for them. She got so after a while that she found not a little pleasure *in telling me that for the money invested, she was sure the hens paid better than the cows.* That little account book of hers made it seem pretty positive that she was right about that, too; and gradually we branched out, getting better stock and making new and up-to-date houses.

At the present time we have not far from five hundred hens and pullets with a lot of chicks coming on, sheltered in two

houses each a hundred feet long. There are also two old houses smaller in size that are used for the chicks after they come. Our chicks are hatched in modern incubators and the machines are busy in the spring of the year, I tell you. The grade of our stock has been improved steadily, until now we have all white Leghorns, and these of the best possible strain. A good deal of the feed used is grown on the farm. I believe here is one great secret of sucess. Too many people have to buy most everything that is eaten by their birds. That cuts a deep inroad into the profits.

We have tried different methods of marketing our eggs and have come to the conclusion that it is a saving of time, which is money, you know, to send them to the big centres of population and let them be sold for us. It takes a good deal of time to market eggs from house to house, although no doubt more can be realized from them that way. But there is much to do on a farm of the size we have and we must avail ourselves of all the helps we can, and the commission man is a blessing—if he is honest, prompt and enterprising.

We never have kept many hogs on our farm, for the simple reason that the other stock seemed to demand about all the time and attention at our command. But there is money, and good money in pork. It may be we will venture a bit deeper into this line in the near future. Hogs grow into money fast and properly managed need not be objectionable on the best regulated farm.

(To be continued.)

The Farm Garden

Spring blooming shrubs should not be pruned until just after flowering.

To prevent a scabby crop of potatoes, soak the seed for two hours in a solution of one-half pint of formalin (formaldehyde) in fifteen gallons of water. Then dry and cut the tubers for seed.

Hurry along the rhubarb plants by turning a bottomless barrel over them. Chink the cracks around the lower edge with manure. This will keep the plants warm and invite them to earlier growth.

Watch the hotbeds. Ventilate on bright warm days when the temperature rises, and be careful about the watering. Water is best applied early in the day, so that it may have a chance to evaporate from the foliage before night.

Just as soon as the frost is well out of the ground it will do to sow onion seed and peas. Beets, early potatoes, spinach, radishes and lettuce may be planted early, too. Tender vegetables should wait until April or May.

Rub some hard soap into the finger-nails before going to work in the garden; this keeps most of the dirt out and prevents a grimy-looking pair of hands. Machinists and painters learned this trick long ago.

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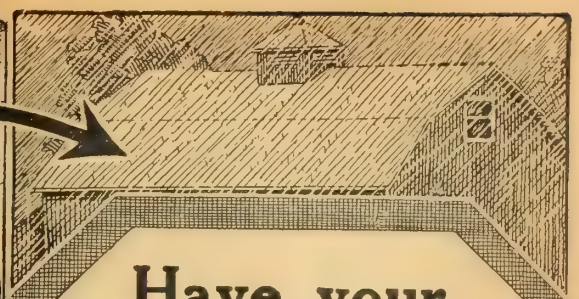

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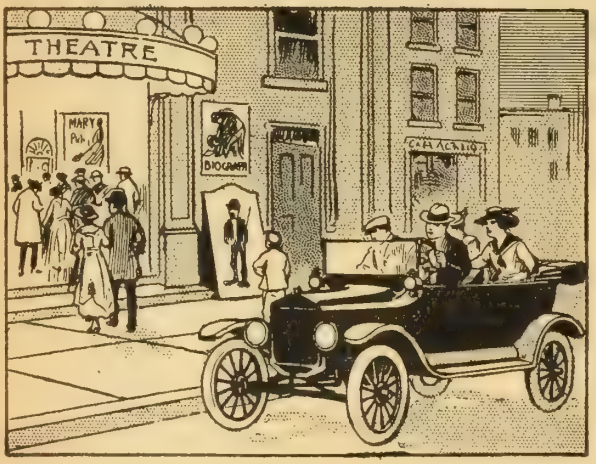

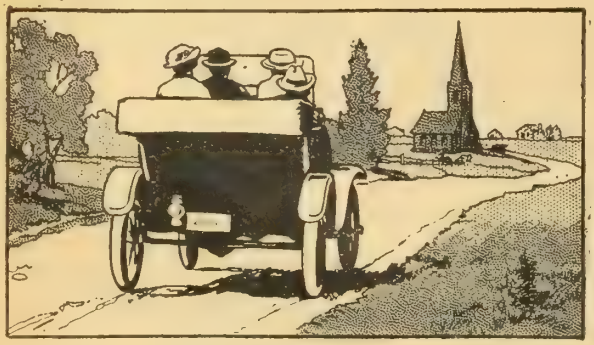

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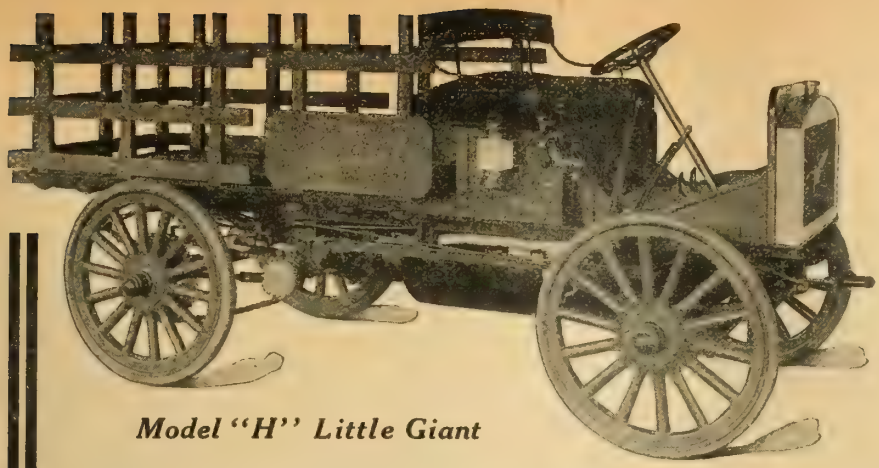

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Shandos township in Peterboro county has eight schools and the assessment of the entire township is only $70,000. Truly, rural education on our present lines is rapidly approaching a crisis.—F.C.

Alberta's Rural Credits

Hon. C. R. Mitchell, Provincial Treasurer of Alberta, in introducing the Farm Loans Bill, said that approximately $12,000,000 was loaned by private companies on rural mortgages in 1913, and that the approximate figure in 1916 was $7,000,000. On these figures he based the conjecture that the demand for the government loans would not exceed the $10,000,000 allowed by his bill. E. Michener, the opposition leader, pointed out that loan companies took only the cream of the risks offered, and stated it as his belief that the demands for the government loans would possibly be in excess of the estimate made by the minister.

The scheme adopted is the New Zealand one which raises money through the issuance of bonds guaranteed by the goverument. It assists municipalities and farmers, with $20,000,000 set as the limit for any one year. The Alberta bill sets a limit of $10,000,000 with no time set for the period in which it is to be loaned but with provision made that the legislature will be asked to approve an increase when the present limit is reached. New Zealand is handled on the half yearly amortization plan, Alberta on a yearly payment plan.

The number of rural loans registered in the Calgary Lands Titles office in January, 1913, were 442 loans, the average interest was 8 1-3 per cent., the average term was five years, the average amount $1,623, with $1,000 the most common amount. This approximated $7,000,000 for the office for the year.

In 1916, at Calgary the rural loans totalled $4,271,000, the number of mortgages being 2,350 the average rate 8 1-3 to 8½ per cent. Edmonton was $2,940,000, the average loan $1,226.

Wise Investments

Several farmers, in replying to W. M. Kelly's request in *Successful Farming*, told what these farmers considered to be their best investment. One man said that his gravity system of water supply was the best thing he ever did. He has running water in his buildings and yards at a cost of $400, with a maintenance cost of only $10 per year.

Another regarded his children as his best investments as they were upright sons and daughters and took the real joy of living from farm life.

A flock of white leghorns was another's investment that paid, while a drainage system costing $400 amply repaid another farmer. A pure bred sire in the herd was the best investment of one farmer. He figured out that his expenditures for pure bred bulls repaid him 10 times in the 25 years.

British Columbia's Rural Credits

The first annual report of the Agricultural Credits' Commission, submitted to the Legislature recently, recited the fact that the Agricultural Act for 1915 was brought into force and the Commission was organized on April 26, 1916. The period, therefore, covered by the report was from that date to the end of 1916. Under the loan of one million dollars negotiated by the Government, debentures of the Commission were issued, guaranteed by the province and bearing interest at 4½ per cent. for a period of 25 years. The bonds were sold for 84.72, netting the commission $847,200. The money cost 5.63 per cent. and is being issued at the rate of 6½ per cent. per annum.

The revenue and expenditure statement for the period ending December 31, 1916, shows the total expenditure of $46,480.81, salaries totalled $6,102.50; travelling expenses, $4,084.09; half yearly interest on debentures to November 1, 1916, $22,500; accrued interest on debentures, $4,074.66; minor items made up the balance. The revenue fell short of the expenditures by over $19,000. The revenue, it must be remembered, merely consisted of $5,000 in appraisal fees; $17,000 in interest on deposits and $3,800 in interest on debenture sales. The balance sheet showed $769,306.77 in the Bank of Commerce, and $72,605.10 as advances on mortgages; in other words, loans to farmers.

The summary of applications and loans for the period ending November 1, shows a total of 1,179. The total amount of money applied for was $2,441,295. The amount of loans granted reached $623,550, and the value of the land appraised under these loans and held as security, is given as $2,070,366.

Cost of Clearing Land

When time is no object, the best way to clear land from timber growth is to let nature and live stock assist. When the growth is removed and the bush burned off clean, which, with most growths, may be made a profitable operation by the sale of the timber and fire-wood, clover and grass seed may be sown, and, while cattle and sheep are pasturing and eating down the sprouts, the stumps will slowly but surely decay, and their removal becomes an easy operation. This process will require from six to ten years before clearing can be completed.

At the Experimental Station, Fredericton, N.B., where it was desired to bring the land into cultivation at the earliest possible moment, two plans of stump removal have been tried, and herewith are given figures of the relative cost on land

from which an average tree growth had been removed.

The two methods employed were, stump pulling by power, and removal by dynamite.

A stump puller of the drum and long lever type was employed, giving a lifting power of 25 tons with an ordinary team. With one hundred and twenty stumps, 10 inches and over, to the acre, and seventy-two smaller stumps, it required an average of twenty minutes with a team and driver and two men to remove each of the large stumps and five minutes to remove each of the smaller ones. The 120 stumps required 40 hours, and the smaller ones 6 hours.

The relative cost, therefore, stood as follows:—

Where power machinery was used, cost per acre was:

46 hours' work team and driver @ 32c.	$ 14.72
92 hours' work, helpers @ 18c.	16.56
330 hours' work cleaning and piling @ 18c.	59.40
60 hours' work burning @ 18c.	10.80

Where explosives were used, the cost per acre was:

150 lbs. stumping powder @ $14.90	$ 22.35
500 feet fuse @ 60c.	3.00
300 caps @ $1.00	3.00
40 hrs. labor of dynamite operator @ 23c	9.20
40 hours, team and driver @ 32c.	12.80
80 hours, helpers @ 18c.	14.40
60 hours. labor piling @ 18c.	10.80
40 hours labor burning @ 18c.	7.20
	$82.75

On other areas, where there were heavy boulders and small stones, the cost of clearing ran up to $186 per acre, while, where the land was free from stone, and stumps were small and comparatively few, land was made ready for the plough at a cost of less than $40 per acre.—C. E. F. *Bulletin.*

Farmers in Business

The Grain Growers' Grain Co. of Winnipeg have celebrated their 10 years in business by publishing an illustrated booklet, entitled "Farmers in Business for Ten Successful Years, 1906-1916."

During the past 15 years the Grain Growers' movement among the farmers of Saskatchewan, Manitoba and Alberta, has earned a place in history and none has exerted a wider influence on farm affairs than the Grain Growers' Grain Co. for it was the pioneer attempt of farmers to do business for themselves. To-day the whole agricultural world is enthused because of their success and farmers rightly look upon organization as a solution for their ills.

This booklet is attractively gotten up on half-tone paper, with numerous half-tone cuts and drawings. The stories of the various departments of their work are told in a most entertaining way.

The farmers of the West have much reason to cherish this brochure of their success, which shows that 48,375,420 bushels of grain was handled in 1916 for 11,000 farmers.—F.M.C.

5% instead of 3%

If you saved $100 every six months for 10 years at 3%, you would receive $347.05 in interest. If you invested the same amount for the same time at 5% you would receive in interest $618.33. The gain at 5% would be $271.28, or 78% in excess of the 3% rate.

Why Lose the Difference

between 3% and 5% or sacrifice 78% of the profits you should derive from your capital. Standard Reliance 5% Mortgage Corporation Debentures are issued in amounts of $100 and upwards. The interest (5%) is payable half-yearly by the local bank in cash on the day it is due. The principal is repayable at a fixed period to suit your convenience. Absolutely safe. No worry or inconvenience.

Thousands of people have invested in these debentures without the loss of one dollar invested.

Are you a saver or an investor? Figure the difference, and write to-day for interesting booklet entitled, "PROFITS FROM SAVINGS," which gives some very valuable advice. Sent free on request.

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Head Office. 82-88 King St. E. Toronto

Branch Offices:
AYR BROCKVILLE CHATHAM
ELMIRA NEW HAMBURG

The Best Yet

1916 has been the most successful year in the business of The Great-West Life Assurance Company. The following are the essential figures for the year:—

Business issued 1916	$ 25,575,373
Increase for the year	1,117,444
Business in force Dec. 31st, 1916	133,016,448
Increase for the year	13,550,381
Income for 1916	5,594,041
Increase for the year	814,551
Total assets, Dec. 31st, 1916	21,702,570
Increase for the year	2,498,024

The year's business is yet another argument in favor of insuring with—

THE GREAT-WEST LIFE ASSURANCE CO.

DEPT. "W." Head Office—WINNIPEG

Big Ben

A *Westclox* Alarm

7 a.m.—

For the Rising Generation

BIG BEN at his best—at seven a. m.—opening little folks' eyes—there's a race to hush him—a pillow battle—merry laughter—and mother to tidy the kiddies for school.

Big Ben's little men bubble health and cheer, and they feel as big as Daddy with a clock all their own.

You'll like Big Ben face to face. He's seven inches tall, spunky, neighborly—downright good.

Big Ben is six times factory tested. At your dealer's, $2.50 in the United States, $3.50 in Canada. Sent prepaid on receipt of price if your dealer doesn't stock him.

Westclox folk build more than three million alarms a year—and build them well. All wheels are assembled by a special process—patented, of course. Result—accuracy, less friction, long life.

La Salle, Ill., U. S. A. Western Clock Co. Makers of *Westclox*

Other Westclox: Baby Ben, Pocket Ben, America, Bingo, Sleep-Meter, Lookout and Ironclad

Priestleys' Priestleys'

YOUR NEW SPRING SUIT

WILL look better, wear better and be more satisfactory if it is made of Priestleys' Dress Goods.

Discriminating women the world over for years have been asking and insisting upon Priestleys'—the Dress Goods of Fashion. They know that Priestleys' on the selvedge is their guarantee of quality in material and color.

Priestleys' DRESS GOODS

this year come in a variety of fabrics and colors. Among the most popular cloths are Salisbury Serge, Mohair Serge, Wool San Toy, Wool Sebastopol, etc.

Sold by all the better dealers.

GREENSHIELDS, LIMITED

VICTORIA SQUARE - MONTREAL

Priestleys' Priestleys'

A Departmental Farm

Where a Gross Income of $8.38 Per Day is Assured with Holsteins, Hogs and Leghorns.

By J. HUGH McKENNY

WHILE travelling about the country this winter in the interests of the Farmers' Clubs I was impressed with some of the methods employed in an effort to make the farm pay. Generally speaking, there are few out and out specialists on the land. The average man feels that in putting all his eggs into one basket that he is running too great a risk, and judging by the last two seasons his contention would seem to be well taken. Usually, the term "mixed" farming is the nomenclature adopted in describing his operations. But W. C. Shearer, of Oxford county, Ontario, has gone his fellow farmers one better. His system cannot be described as mixed, nor does he put all his eggs in one basket. As a matter of fact, he carries on three distinct specialties, the whole combination fitting in like a carefully adjusted machine. In the cow, the hog and the hen he has a trio that last year produced an income of $3,600 on a hundred acre farm. These various operations are modelled somewhat on the plan of a well-regulated factory. The cows consume the roughage such as hay and ensilage, and in their turn provide a supply of skim-milk and whey for the pigs and poultry.

"I thought I was pretty well up-to-date in the way I was managing things," remarked Mr. Shearer to me, "but when my son Tom came home from the O. A. College last spring he opened my eyes. He had found a new way to keep the farm accounts. Instead of lumping everything together and being satisfied with the total gross receipts, he proposed to keep a separate account with each of our three sources of income—we have what you might call a 'department' farm."

The dairy business on this farm is linked up with the community cheese factory. During the winter months the milk is separated and the cream delivered at the factory for shipment. By having half the cows freshen in the fall it is claimed that practically twenty-five per cent. more milk is obtained during the year and a regular income available for twelve straight months—a good example of farm economics. As a rule, from fifteen to eighteen cows are kept. Recently, however, Mr. Shearer has been working into pure-bred Holstins, the present herd numbering twelve head. Six of these, but lately freshened, were producing an average of fifty pounds of milk each day, that was wholesaling at $1.75 a cwt., plus the skim-milk that was being utilized as part of the raw material in the production of pork and eggs.

Clover hay and ensilage form the basis of the ration for these cows. As the oat crop on this farm is more valuable for seed purposes this year, the total meal ration is being purchased. This consists of a mixture of bran, oil cake, and cottonseed meal in proportion of 6-2-2 respectively. At the market prices for these concentrates, contracted for in September, each cow consumes eighteen cents'

worth a day, thus leaving a net profit of about seventy cents over feed actually purchased.

STOPPING ONE LEAK

Mr. Shearer says that the piggery department is something that looks good to him just now—with prices in their 'teens. Two brood sows are kept and a number of shotes are bought if they can be secured. Usually, his annual output is from fifty to sixty finished hogs. Mr. Shearer entertains some uncommon ideas regarding breeding and feeding swine. He tries to have his sows bred the second day in heat as his experience has invariably supported the theory that a moderately large litter will result. Bred on the first day he claims they will be abnormally small; if on the third day unnecessarily large.

In reference to feeding, the practice is to give the meal ration only twice a day. "I found that in giving a noon feed I was practically throwing it away," explained Mr. Shearer. "The hogs took it greedily enough and then would go and lay down, their morning feed even then only a little more than half digested. When I began stuffing them again at noon, about one-third of the day's ration was simply voided and found its way into the manure pile. Of course, we give them what drink they will take at noon and treat them with a few roots, just for lunch. Nothing has paid us better than the plugging of that leak in the feed bin."

The pigs on this farm are weaned according to their weight rather than their age. Forty pounds is the minimum average and some run over fifty. As a rule, they will be from eight to ten weeks. When able to take extras a sort of creep is provided and the youngsters are given a trough in which is placed half a pail of skim-milk brought to the consistency of cream by stirring in some middlings and a little oil cake. This amount, for ten pigs is, of course, worked up to. By this practice the weaning process in no way retards growth. From weaning time until a weight of from eighty to one hundred pounds is reached, the feed consists mainly of middlings, oil cakes and milk, after which the middlings are replaced by a chop mixture of two parts oats, two parts barley and one part wheat. About one-half pound of oil cake is fed to each pig, mixed with the foregoing and allowed to soak for twelve hours.

$500 FROM HENS

During the last year or two Mr. Shearer has developed into a genuine poultry enthusiast. Last season he blossomed out the owner of 180 fine brown Leghorns that must have been of the laying strain par excellence, for they added $500 more to the Shearer bank balance. "Formerly," said Mr. Shearer, "we kept Barred Rocks, and as I supposed a hen was pretty much the same, no matter what breed she inclined to. But that was where I made a mistake. I started in to feed the little brown fellows the same ration that had given us good results with the Rocks. They responded by putting more flesh on their bones and less eggs into my basket. Then I got busy with the scales and after considerable testing and experimenting, concluded that two and a half ounces of mixed grains per day was about right. I had been feeding a third too much. At noon the whole bunch are given a pail of mash compounded from chop, middlings

Continued on page 73.

THE CANADIAN BANK OF COMMERCE

SIR EDMUND WALKER, C.V.O., LL.D., D.C.L., President

JOHN AIRD, General Manager
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We will be pleased to send you samples—prepaid. Write

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It costs you nothing to consult us as to the advantages of having a Greenhouse on the Farm. Write Dept. M., stating your requirements and we will gladly furnish you with costs, etc. All information FREE.

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If your Dealer cannot supply you, write
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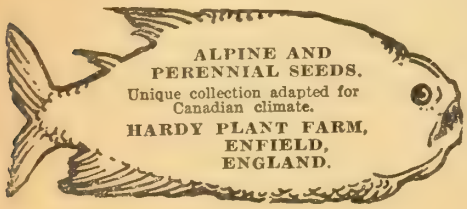
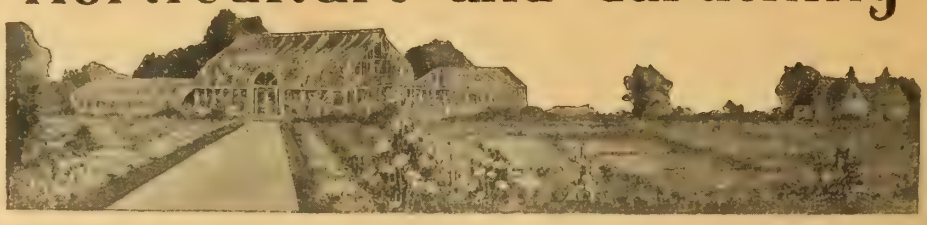


Horticulture and Gardening



Remove mulching from flower beds. Be careful not to uncover the peony roots too soon. Too early exposure of the young red-brown crowns means loss of bloom. Be careful, too, when pulling up last year's old stalks not to bring up any of the soft young shoots that are always found clinging to them. It is better to cut off the old stalks close to the ground.

Sow seeds of hardy vegetables, practically everything but beans, corn, vines and the tomato family.

Transplant hardy vegetables from cold frame to garden, especially cabbage and cauliflower plants.

Divide and rearrange perennials; give the surplus to neighbors who cannot buy them.

This is the busiest month for hotbeds and cold frames. They need the closest care on account of sudden rains, hail, changes of temperature, frost, and the dangers of drying out, burning foliage, etc.

Start cannas outdoors by April first, as well as the early crops of dahlias and gladioli.

Cut back any canes on rose or berry bushes that were killed back at all by the frost.

This is the month to apply slow-acting fertilizers, ground lime stone, bonemeal, etc. Nitrate of soda is a fine thing for the garden, but only when crops have begun to come up.

On a clear dry day when the soil is not so wet as to stick to the spade, stir it up around shrubs and roses. Work in a good layer of manure as the soil is turned up. Don't attempt to pulverize it, but leave it rough so that the air may circulate freely.

Grow More Varieties

Our gardens would yield a deal more satisfaction as well as profit if we would go into the cultivation of a greater variety of vegetables. Brussels Sprouts, for instance, the most delicately flavored of the cabbage family, are unknown in the average farm garden. The plants are started in seed beds and transplanted the same as late cabbage. They also require essentially the same kind and amount of tillage and need an abundance of plant food and moisture. The sprouts complete their development late in autumn, and the quality is thought to be improved by slight freezing. They may be cut from the stalk in the field, or the entire plant may be taken up and stored,

Summer "greens" are also scarce in farm gardens. Swiss chard, kale, and New Zealand spinach will supply new and tender foliage from early summer to late autumn. The chard is a particularly delicious vegetable. The leaves are cut off and used as greens and the stalks may be cooked like asparagus. So long as the crown is not injured in the cutting the leaves will grow up rapidly, giving a continuous crop all summer.

Kale will stand extreme heat and drought and may be grown from seed sown almost any time from early spring till late summer. It continues to grow until late in the fall, and is killed only by severe freezing. Sometimes the hardiest sorts are used for greens in midwinter.

The New Zealand spinach plant is entirely distinct from ordinary spinach. It may be planted at almost any time in early spring and will continue growth until the severe frosts of autumn. No special care other than good tillage is required.

Of the salad plants, parsley, cress and endive might well supplement the popular lettuce. Endive makes a dense, widespreading mass of cut and curled leaves, but the flavor is likely to be bitter unless they are blanched by drawing the leaves of a plant together and tying them at the top. From two to three weeks are required for blanching and the plants should be used at once or the inner leaves will begin to rot. For this reason only a few plants should be tied up at a time, or the crop will be of short duration. Plants should be dry at the time they are tied.

Increase Profits Through Irrigation

At the Experimental Station at Vineland, Ontario, it was found that irrigation by the Skinner system showed the following profits:

ONIONS

Soil type: medium deep, sandy loam.
These onions were transplanted out May 9th, harvested October 2th. Variety: Prizetaker.
Yield per acre on irrigated plot. 477.9 bus.
Yield per acre on non-irrigated plot ..... 400 "
Gain in bus. per acre from irrigation ..... 77.9 "
This, at $2 per bushel, equals $155.80 as increased returns from irrigating.

During July, August and September, 8.7 inches of water were applied at a cost of $31.39, leaving $124.41 as net increased profit per acre from irrigating.

BEETS

Yield per acre on irrigated plot.. 111 bus
Yield per acre on non-irrigated plot ..... 71 "
Gain per acre from irrigating.. 40 "

CARROTS

Yield per acre on irrigated plot.. 190 bus
Yield per acre on non-irrigated plot ..... 117.7 "
Gain per acre from irrigating.. 72.3 "

Amount of water applied during July, the only dry month during the growing

season, was 2.9 inches, at cost of $10.44 per acre.

The value of the increased yields amounted to $40 for beets, and $72 for carrots. This would give an increased profit per acre of $29.56 for the beets and $61.56 for the carrots for irrigating. (Cost of irrigation deducted.)

Starting an Asparagus Bed

The roots for starting an asparagus plantation may either be grown from seed by the prospective planter or purchased from a seedsman. In growing ones own roots, the seed should be sown in drills about one and one-half feet apart early in the spring. As the seed germinates very slowly it is wise to sow a few radish seeds with it to mark the rows so that cultivation may be started before the asparagus plants appear. Otherwise it may be difficult to find the asparagus on account of weeds. An additional precaution is to hasten germination by soaking the seed in warm water for twenty-four hours before planting. The seedlings should be thinned to about three inches apart in the row.

The roots should be planted as early as the ground can be worked to advantage. If plants have been shipped from a distance they should be heeled in upon arrival to prevent their drying out and taken up and planted as needed. Soil should be rich and cultivated deeply. If there is to be a large bed, the field should be laid out in furrows four or five feet apart and from eight to ten inches deep and the roots set two feet apart in the bottom of the furrow. The furrows should not be completely filled in at the time of planting, only enough dirt being put in to cover the crowns about two inches.

Tricks of the Flower Garden

To have rose bushes covered with flowers long after the blooming season of the rose itself has passed, plant just beneath each rose bush a plant of nicotinia, verbenas or large, fringed California petunias. The firm support afforded the petunias by the strong branches, will induce speedy growth, and the rosebush will not be injured. On the other hand, the constant spraying necessary for the satisfactory growth of these plants, will be of great benefit to the rose itself.

Why not allow your clematis vines to climb up the trunk of any tall tree on the lawn. If the tree is trimmed fairly high sufficient sun will be obtained by the clematis to afford splendid growth.

What about the rockery over in the bare corner where the close wooden fence on the north shuts out the sun and air, making the earth damp, heavy and sour? A pile or two of large stones would add wonderfully to the look of the place, to say nothing of the improvement to the character of the earth itself. A few stones piled with earth will bring the plants closer to the sunlight and the unsightly corner will soon "blossom as the rose."

Honors Well Merited

The faculty of Macdonald College, Quebec, presented honorary diplomas to Dr. Duncan McEachran, Dr. J. C. Chapais, Mr. Robert Ness and Mr. Robert Brodie. Each of these men have been very active in the agricultural life of Quebec.

"The Seeds that Satisfy"

Write for our illustrated Catalogue, which is FREE.

WE have No. 1, 2 and 3 grades of Red, Alsike, and Lucerne Clover; also Timothy in stock; also Sweet and Crimson Clover, Blue and Orchard Grass, Oats, Barley and Corn, and practically everything the farmer plants.

JOHN A. BRUCE & CO., Limited

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They're Growing Fine!

From Spring to Fall you'll hear this expression used over and over again, with ever-increasing satisfaction, by gardeners who have planted Ewing's Seeds.

The splendid promise of the first few weeks, marked by good germination and lusty growth, is more than fulfilled as the season advances—for

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are "thoroughbreds." They come from choice selected plants, and reproduce the same.

Don't take chances—get Ewing's Seeds—the kind that for nearly half a century have been producing bumper crops. Write for our new Illustrated Catalogue, and if your Dealer hasn't Ewing's Seeds, order from us direct.

The William Ewing Co., Limited

Seed Merchants, McGill St., Montreal.

Ewing's superb blend of mixed Giant Spencer Sweet Peas

Composed exclusively of Giant Waved Spencer varieties, blended in proper proportions of bright colors and including several new hybrids of exquisite shades, many of which, when sufficiently trued up will be introduced as new named varieties. ***Pkt. 10c; oz. 35c; ¼ lb. $1.00; 1 lb. $3.35.*** *Sent postage paid—Cash with order.* 54

PULL OUT THE STUMPS!

The HERCULES—

All Steel Triple Power Stump Puller pulls an acre of stumps a day—increases the value of your land 100%. Makes room for *money* crops. Guaranteed for 3 years against breakage from any cause. Send name for fine free book, 30 days free trial offer and special low-price proposition.

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The real cure for Heaves has been found in Capital Heaves Remedy. Twenty-two years of remarkable success proves its merit. No matter how old the case, or what else has been tried, use "Capital" Remedy. Cure guaranteed or money refunded.

FREE TRIAL OFFER

On receipt of 5 cents (stamps or coin) to cover postage and wrapping a full week's trial will be sent free to any address, with all particulars, including Guarantee of Satisfaction.

Veterinary Supply House

736 Cooper Street Ottawa, Ontario

POTATOES

9 4/5 Bushels from One Pound of Seed

Three potatoes, planted in 56 hills in Huron Co., Ohio, yielded this amount. The seed, the planting and the crop harvested are matters of county record. You can do as well or even better by following my instructions. It is not a matter of variety of seed, or soil, or fertilizer used, important as each of these matters is, but it is the selection and cutting of seed and treatment. It was these elements that enabled me to produce the yield of 552 lbs. of potatoes from one pound of seed. Full information as to how it was done, the seed used, the soil, the fertilizer employed, the tillage and the methods of producing this large crop will be sent for One Dollar. Send your order now and grow more potatoes from less seed. Any one that feels too poor to spend a dollar to learn how to increase the yield in raising potatoes, send me your name and address. Planting time is near. Send your order to-day and raise more potatoes from less seed.

A. R. GIBSON,
Brookfield, - Illinois

SEED FOR SALE

O.A.C. No. 72 Oats, $1.25 per bush.; Seed Potatoes, $2.50 per bush.; Red Clover, No. 1, $25.00 per 100 lbs.; Alsike Clover, No. 1, $25.00 per 100 lbs.; Timothy, No. 2, Gov. Standard which is No. 1 for purity, $9.00 per 100 lbs.; Timothy, Red Clover and Alsike, No. 1 for purity, $12.00 per 100 lbs. F.O.B. Navan. Bags 30 cents. Cash with order. Special prices on 10-bag lots.

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Old Apple Trees

Barton Mothersill, of the Oshawa Fruit Growers' Association, who farms the old homestead near Hall's March at the lake front, has an old orchard of trees, originally planted 60 feet apart. These trees are over 60 years of age and bearing well. Who has an older apple tree to report?—Editor.

Spray Formulas for Small Places

There is frequent demand for spray formulas adapted to the use of the owner of a few trees or plants. Most of the formulas are based on 50 or 100 gallons of spray. Of course, anyone with a set of good scales and an aptitude for mathematics can figure out for himself one-fiftieth or one one-hundredth of a formula, but only a small number will do this to save a few gooseberry bushes, a rose bush or two, or the crop of plums on a single tree. Often the fruit grower has a few plants needing special attention, but the amount of spraying to be done will not warrant getting out the spray barrel or tank.

Proper proportions are, therefore, given below for use in mixing small amounts of the more common sprays. Measures are given wherever possible, because they are much easier to use than weights. These measures are based on the following table, which is the generally accepted standard.

Gallon	Quart	Pint	measuring cup Level	table-spoon Level	teaspoon Level
1	4	8	16	256	768
	1	2	4	64	192
		1	2	32	96
			1	16	48
				1	3

Attention is called to the cup mentioned above. It is the half-pint measuring cup that is coming into general use in the kitchen and is obtainable at any ten-cent store. The cup, as well as the spoons, is filled level, all the rest of the material being scraped off.

For Bordeaux Mixture

Use one of the following formulas: A trifle over 2 level teaspoonfuls of copper sulphate (blue vitriol) with ½ measuring cup of hydrated lime to 1 gallon of water; or ½ measuring cup of cupper sulphate with 2¼ measuring cups of hydrated lime to 5 gallons of water. Dissolve the copper sulphate and lime separately and mix; then dilute to the required amount. The making of Bordeaux mixture in such small amounts with stone lime is not practicable, and hence the recommendations are for hydrated lime.

Commercial Liquid Lime-sulphur

The formula for the use of commercial liquid lime-sulphur in dormant strength is 1 pint of commercial lime-sulphur diluted to 1 gallon of water. This is the strength used in early spring to destroy the scale, and is most effective when used just before the buds open.

The summer strength of this spray mixture is ½ cup scant of commercial lime-sulphur to 1 gallon of water.—P.T.

Vancouver Island Possibilities

The climate and soil of Vancouver Island render it well adapted to fruit culture and a well selected apple orchard at the end of five years should begin to pay gradually, and then increase until it pays a net annual profit of $125 to $150 per acre. Peaches are successfully grown in many parts of the Esquimalt & Nanaimo Railway Company's land grant. The fruit attains a good size, ripens fully and possesses an exceptionally fine flavor. One advantage of peach growing is the fact that the trees come into bearing earlier than apples, so that under favorable circumstances a four-year-old peach orchard will produce from $250 to $300 worth of fruit per acre. All kinds of plums, as well as nectarines and apricots, grow equally well; and a good trade can be worked up for them. It has already been found that a co-operative system of selling and shipping fruit from, and to, different points is the best, preventing the market from being glutted by several shipments at the same time.

Varieties of Apples to Blame

A. G. Turney, in talking to the Apple Packing School, at Fredericton, recently, said that the main reasons why apple orchards have failed are planting of wrong varieties, the increasing prevalence of insect and fungus pests, the poor marketing facilities, and the man who is temperamentally unsuited for the work.

Electricity is Wanted by Farmers

Thos. Mercer Markdale was the first farmer to tap the Eugenia Falls system of electric power. He has wired his house, two large barns, a pumphouse, blacksmith shop and hog pen. A half horsepower motor operates the washing machine, the cream separator or churn and an electric iron is used. A 10 horsepower motor is installed for the heavy work. As it is mounted on skids it can be easily transported from place to place.

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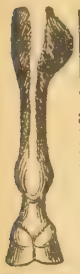

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About Live Stock

The Dry Ewe

The question of what to do with the dry ewe presents itself annually to all sheep raisers. The highest per cent. of lambs in proportion to the number of ewes bred is necessary to insure maximum returns and profits, says Professor Marshall. The expense of lambing out a band of ewes is about the same, no matter what the lamb crop is. A ewe band having only 75 per cent. of lambs costs very little if any less to run until lambs are marketed than does one in which 90 or 100 per cent. of lambs are raised.

The desirable lamb yield varies with conditions. With ewes carrying blood of mutton breeds and which are lambed in sheds, up to 125 per cent. of lambs can be raised to good advantage. With fine wool ewes lambed in the open and running on poorer range a lamb crop of over 100 per cent raised would contain many runts and ordinarily be worth less than the smaller yield, for which there was more milk per lamb.

The minimum standard to aim at under any conditions would be 100 per cent. of lambs raised for the number of ewes bred. With Merino ewes dropping few twins and with some unavoidable losses of lambs, such a yield can seldom, if ever, be realized. However, to secure the greatest economy of production, all factors which hold down the percentage yield of lambs must be studied and, as far as practicable to do so, controlled.

The first and most important factor in studying the size of the lamb crop is the "dry" ewe. The proportions of "drys" among ewes at their first lambing as two-years olds under range conditions is always much larger than with older ewes. In this connection a "dry" ewe is considered to be one that did not have a lamb and not one that may have lambed but ceased milking because of loss of the lamb. The small proportion of young ewes that lamb might be explained on the grounds that the drys are nonbreeders and are ordinarily eliminated after being marked as drys during the lambing of the band in which they ran. This would ensure a larger proportion of fertile ewes in the older bands. This explanation, however, is not the correct one as there are very few ewes that are actually barren and failure to get in lamb is mainly due to conditions existing at breeding time.

The facts shows that it is not advisable to discard a ewe because of failing to lamb as a two-year-old. On the average, dry two-year-olds are fully as likely to drop lambs the next year as are those that got in lamb. The figures given in the table are from the Bureau of Animal Industry's experimental flock which has been kept on the range at Laramie, Wyo., and is to be located in Fremont County, Idaho, when appropriations are available for equipment needed on the land reserved for the U. S. Sheep Experimental Station.

Year.	No. 2-year-old ewes in lambing	Per cent. lambing	Per cent. those lambing, also lambing year after	Per cent. dry 2-year-olds that lambed year after
1910	42	81	79.4	87.5
1911	56	64.3	83.4	75
1912	84	72.6	90.2	95.6
1913	90	60	83.4	86.1
1914	100	73	86.3	96.3
1915	93	86	96.25	92.3
Average		72.8	86.5	88.8

In the bureau's flock individual records are kept for all ewes, showing the lambs born each year and the weight, length and quality of fleece. In 1910 there were 542 two-year-olds in the lambing band. Of these 8 were dry. These 8 dry ewes were bred again in the fall of 1910 and 7 of them lambed the following spring. Of the 34 that lambed in 1910, 27 lambed the next spring. The average of six years' results show that 76.15 per cent. of ewes bred as yearlings got in lamb. Of the dry two-year-olds 88.8 per cent. lambed as three-year-olds, while 86.5 per cent. of the lambing two-year-olds produced lambs the following year. It appears that the average dry two-year-old range ewe is fully as likely to lamb the next year as are those got in lamb when bred the first time.

Livestock in Alberta

A report of the Department of Agriculture tabled in the Legislature last month, shows that the good number of pure bred and grade stallions were 237 pure breds and 209 grades.

The cattle sales held at Lacombe, Calgary and Edmonton show Calgary having the largest average prices for standard breeds. The averages were as follows:

	Lacombe	Calgary	Edm'ton
Herefords	$216.92	$310.16	$152.50
Shorthorns	158.64	221.06	155.80
Aberdeen Angus ..	154.37	175.73	122.85

A total of $7,472.88 was realized from sales of strays and entire animals, of which $531.77 was refunded.

Sheep shearing by machinery has been introduced by R. C. Hervey, Lethbridge. This method is a labor saver and it is thought, that if it proves satisfactory, the plan will be generally adopted.

Sheep prices showed a large increase. Mutton went from $8.56 in January to $10.50 in December; hogs, $8.93 in January, $11.39 in December.

The experiment of William Schroeder, in the foothills near Pincher Creek is being watched with interest by the department. Mr. Schroeder is milking 200

goats, and thus far has made a financial success of it. This industry might grow to considerable proportions.

Organize Horse Breeders' Club

What is believed to be the first horse breeders' club, in Ontario, was organized at Orono last month, although a number have been formed in Western Canada. The Dominion Department of Agriculture proposes to provide for community breeding and has undertaken to pay 40 per cent. of the service fees under certain conditions.

These conditions in brief are:

(1) That the breeders of a given section shall form a horse-breeders' club, and arrange for the hiring of a stallion for service of mares belonging to members.

(2) That this club shall guarantee to supply a given number of mares for service at not less than $12 per mare, and that the club shall become responsible for the payment of the fees.

(3) The stallion selected for service on these mares must be submitted for examination by an authorized veterinary surgeon.

(4) One-third of the fee for service shall be paid at the end of the season whether the mare is in foal or not, and the remaining two-thirds when the mare proves to be in foal.

(5) In the case of a stallion four years old and over the owner must guarantee he is at least a 50 per cent. foal getter, and in case of death of a stallion hired for service by the club the owner is to provide another satisfactory to the club.

(6) The agreement between the stallion's owner and the club must be approved by the Live Stock Commissioner.

20 Sheep Bring $1,000.

At the Abernethy sale in Simcoe county last month, 20 Oxford Down sheep sold for $1,000. The buyers were local farmers.

$11,900 for a 2-Year Hereford.

Frank Collicut, rancher, of West Crossfield, Alta., has arrived at his farm with the $11,900 Hereford bull from Missouri. Frank is one of the biggest ranchers on the continent and has an interesting life history. Watch for it in THE FARMERS' MAGAZINE.

Poole's Sale.

W. B. Poole's sale of registered Holstein cattle in Oxford county, Ont., last month, proved that this big, favorite breed are much in demand yet. 21 females totalled $4,985, an average of $233. Six yearling bulls averaged $153, and 7 calves $65. The aged bull brought $680. Among the buyers were: Malcolm Schell, Woodstock; I. N. Howe, Mossley; A. C. Taylor, Glanworth; George Ruckle, Ingersoll; J. H. Mann, Belmont; P. M. Campbell, Ingersoll; J. McMillan, Glanworth; George Nancekivell, Ingersoll; James Rouse, Springfield; R. G. Boxall, Mossley; Walter Wilson, Ingersoll; J. McLaren, London; George Curtis, Talbotville; J. A. Bryden, Galt; H. Holtby, Belmont; A. Tattersall, Mt. Elgin; Alex. Anderson, St. Thomas; B. G. Jenvey, Ingersoll; S. P. Ranney, Salford; Jno. Gregg, Ingersoll; C. Adams, Southwold; Chas. Butler, St. Thomas; C. E. Hill, Milton; H. A. Burrill, Norwich, and J. C. Freel, Thamesford.

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and tire out your man with a Plow that makes a rather poor job at best! Buy a NEW PLOW—the one that SAVES HORSE FLESH and is EASY TO HOLD (handle); that through LIGHT DRAFT gives a few more furrows each day —and makes a field OF WHICH TO BE PROUD; and best of all—does such good work as to help secure the GOOD CROP you want and hope for. This Plow is the FAMOUS FLEURY PLOW; an "Original No. 21" or a "Dandy"; a light No. 13: "Special No. 5" Narrow: One-horse or Orchard "Original 15A."

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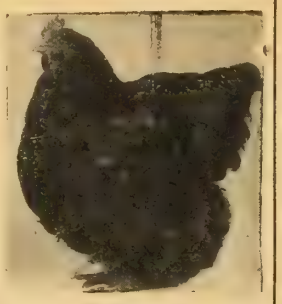

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$1.25 per setting. $7.00 per 100.
THREE PINES FARM, Jarvis, Ontario.
A. C. Pulver.

In The Poultry Yard

Determining Chicken Sex

With the rapidly growing day-old chick industry the question of sex determination naturally arises. Many buyers would like to order all pullets, all cockerels or a given number of each, and would be glad to pay an additional price for this assurance.

The sex of Barred Plymouth Rock chicks can be told with a reasonable degree of accuracy. The pullet has a dark, willow-colored beak, sometimes streaked with black. It is of finer bone than the cockerel and the legs are dark and smoky colored. The cockerel has bright yellow legs and beak and usually a coarse head and prominent eye. The cockerel is a gray or slate color while the pullet is darker. The white tip of the wings and spot on top of head are more noticeable on the pullet, due to the contrast with the deeper black. This means can only be used to denote the sex the first couple of days. After this time they all take on the one characteristic blue color, the beak and legs of the pullet fade out to yellow. —C.S.A.

Egg-eating Birds

An inveterate egg eater often causes one a deal of trouble, and if they are not valuable birds the best thing to do is to cut their heads off. When, however, it is a valuable bird which eats her eggs, the whole of the contents of an egg should be emptied out, and the shell filled with mustard and cayenne pepper. Sometimes they will eat the whole of it. When they do they do not forget it in a hurry, for it gives them pain for at least eight or ten hours, and they appear to have had enough egg, at any rate for a time, after that.

Mating Hens

J.P.P., Ontario.—Would it do to use the same male bird used last year, or would it be better to have new males each year? Do poultry deteriorate by using the same males?

Answer.—It is a wiser practice for the breeder of poultry to change his cockerels each year. If, however, you are expert in selection and the art of breeding, a little inbreeding may be permissible to establish a strain to throw a large percentage of high class birds. This method intensifies the blood and reduces the chances of having the chicks come with faults because it reduces the number of ancestors to which reversion may be possible

Buff Leghorns as Layers

I have a flock of 40 Buff Leghorn hens that have laid in November 258, in December, 489, in January, 674, in February, 530, a total of 1,951 eggs.

After allowing 20c. per bird per month for feed, have a profit of $81.10 for these 4 winter months. I am now selling settings at $2 per 15 eggs so expect the next 4 months to be even more profitable. I have paid as much as $2,500 for a single bird in building up this winter-laying strain, but feel that the best is always the cheapest. I am a firm believer in cleanliness and regular feeding hours of good wholesome food. I trapnest every pullet and breed only from the heavy winter layers. When mating up my breeding pens I always have the "standard of perfection" in mind and so have kept up the quality of my flock. I raised the first Toronto cockerel this year from a hen that laid 190 eggs in her pullet year. In closing I will say, that hens do pay, if you are interested and will use common sense.—H. Bickle.

Poultry Houses

Now is the best time in the world to start in the poultry business. It is easy to make a small house out of a few dry goods boxes and buy a male and 2, 3, 6 or 12 females from some good poultry farm. Raise some chickens from these old birds this spring. Study and ask questions and you will make a go of it and be glad that you started.

There are a few essentials in connection with the poultry house that need attention. Frost on the hen house walls, remember, indicates the lack of good ventilation. The open front house may seem cold, but it will not be frosty if rightly arranged. Roup is now stalking through the country; its harvest of death will be appalling. Cracks, crevices and knot holes are his entrances—stop them up and rout out dampness and prevent roup from entering the flock.

Never let laying hens run out in the snow. Almost invariably it checks laying. Keeping dry litter on the floors when it is cold helps to keep hens laying in cold weather.

It is best to clean the dropping boards at least once each week and spray the roosts with some good commercial preparation for killing mites once a month. Have a good supply of sand or dry dirt on hand to use on the droppings boards during the winter months.

Be sure that the house is tight on three sides and that there is no chance for a draft to strike the hens. Colds result in

the fowls having roup and other dangerous poultry troubles. Have muslin curtains on the front of the house and have windows moveable so as to be regulated to suit the climate and temperature.—W. E. Frudden.

B.C. Gains From 30 Hens

Two years ago my flock was started with an initial outlay of eighteen dollars and comprised one cockerel, eighteen hens and three small batches of chicks. Some forty chicks were raised the first year, twenty-six being pullets. A cockerel for breeding was bought early in 1916 at a cost of two dollars, making a total expenditure of $20.

At the present time the flock consists of 24 hens and 60 pullets, to which have been added 3 bred-to-lay Barred Plymouth Rock Cockerels from the Agricultural College, Guelph, Ontario, for breeding this coming spring.

The hens are not pure bred but seem to be a good laying strain, all poor layers having been weeded out. They have been fed the same as at the Second International Egg-laying Contest, held at Victoria, 1912 and 1913, and all information was obtained from Government bulletins, the only exception was that wheat was fed all the year instead of wheat and corn, as it was found that Rocks fatten too easily.

During cold weather table scraps and potato peelings were boiled and fed in a warm mash once a day. The hens are kept in a large barn and are given free range from three o'clock in the afternoon.

There was no special accommodation for the young chicks to which the loss of 17 was attributed. White diarrhœa was entirely absent. Chicks hatched out in 1916 were 136, with a loss of 17, the remainder consisted of 55 cockerels and 64 pullets.

Cost of each pullet up to the end of November was $1.20 each. The cockerels were sold at 20c. per pound for $41.10, and this reduced the cost of pullets to 65 cents each. Pullet eggs laid in September, 96, in October, 60, November, 58, and December 290.

The first hatch was brought out March 13th, and the last on May 22nd.

Pullets commenced to lay September 1st, but for reason unknown (as there was no change of food) the majority of early layers quit, two went broody and these partially moulted.

Cost of feed in the early part of 1916 was wheat, $2.25; shorts, $1.50; oat chop, $2; middlings, $2; beef scraps, $5, and in December was wheat, $3.10; shorts, $1.90; oat chop, $2.30; middlings, $2.30; beef scrap, $5.

Feed consisted of per month with slight variation 150 pounds wheat, 50 shorts, 60 oat chop, 25 middlings, 15 beef scrap, and a bale of straw for nests and scratching in, when necessary oyster shell grit and charcoal were always provided. All green food the hens obtained for themselves when on free range. Permanganate of potash was used in the drinking water. This ration was for forty birds per month and reckoning an average of thirty birds per month for the year it cost from 18 to 19 cents per month for feed per bird.

Some feed was left from April, the birds getting more free range and on account of so many hatching. From the beginning of July no notice was taken of hens going broody in the reckoning of the number of eggs per bird, broody hens be-

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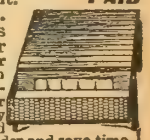
FREIGHT AND DUTY PAID



If ordered together we send both machines for only $14.50 and we pay all freight and duty charges to any R. R. station in Canada. We have branch warehouses in Winnipeg, Man. and Toronto, Ont. Orders shipped from nearest warehouse to your R. R. station. Hot water, double walls, dead-air space between, double glass doors, copper tanks and boilers, self-regulating. Nursery under egg tray. Especially adapted to Canadian climate. Incubator and Brooder shipped complete with thermometers, lamps, egg testers—ready to use when you get them. Ten year guarantee—30 days trial. Incubators finished in natural colors showing the high grade California Redwood lumber used—not painted to cover inferior material. If you will compare our machines with others, we feel sure of your order. Don't buy until you do this—you'll save money—it pays to investigate before you buy. Remember our price of $14.50 is for both Incubator and Brooder and covers freight and duty charges. Send for FREE catalog today, or send in your order and save time.

Write us today. Don't delay. **WISCONSIN INCUBATOR CO., Box 206, Racine, Wis., U. S. A.**

EGGS FOR HATCHING. Day-Old Chicks

BARRED PLYMOUTH ROCKS, SINGLE COMB WHITE LEGHORNS

The best winter layers selected from our large, heavy producing flocks. Prices reasonable. Quality very high. Send for Circular.

WALNUT GLEN FARM

Dept. F. R. R. 4, CHATHAM, ONT.

MILLER PURVIS BOOK

Of Practical Value to All Poultry Raisers

Reviews all America for material. Advice that is right on all poultry problems. Author is special poultry authority of the Breeders' Gazette.

Price $1.10, postpaid.

The MacLean Publishing Company, Limited
143 University Avenue - - Toronto

The Bred-To-Lay Hen versus The Show-bird

Ten or fifteen years ago, it was the day of the Show-bird. Fine feather and appearance, and an aristocratic objection to work—to the extent of more than 40 or 50 eggs a year, and most of these in the Spring and Summer—were the characteristics of the hens that brought the big prices. All that is changing—the present-day world demands that everything must be useful as well as beautiful, and the poultry world is not behind in asking of the modern hen, not "How closely do you come to the show-bird standard?" but "How many eggs can you lay, and how many will your daughters lay?" The best and most enterprising "Show-men" all over the continent realize this and are rapidly introducing trap-nests and are advertising their 200-egg hens with the rest of us

After the day of the show-bird came the day of the hen with the year's trap-nest record, and now has come the most useful change of all—the hen with the WINTER trap-nest record. Four years ago, "Oldham Farm" originated the system of winter trap-nest records, and we fully believe that ten years from now every hen will be sold on her winter record.

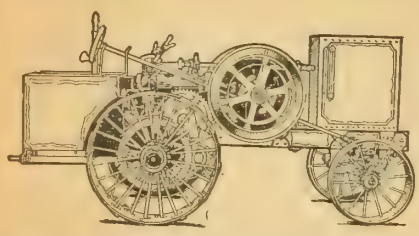
Next month, in this space, we will tell some of the necessary things and some of the difficulties in building up such a strain as that at "Oldham Farm."

Send a post card for a booklet telling about "Oldham Farm" and the Bred-to-lay hen. It is free.

LEWIS N. CLARK, Owner and Manager **Oldham Farm, Port Hope, Ont.**

MUST BE SOLD

STUPENDOUS OFFER TO ONE LUCKY FARMER



Not to every one comes such an opportunity—A Brand New Tractor—Never Been Used. Sells in the United States for $900. Who will be the lucky farmer to get this Farmer Tractor for $700?—practically half its cost in Canada.

This Farm Tractor, 10 Horse-Power for two or three plows, burns gasoline or coal oil, will take the place of 4 to 6 horses. Can be used for ploughing and all kinds of pulling, hauling and belt work on the farm. Be the lucky Farmer. **Call and see it for yourself at our office.**

Climax Good Roads Machinery Co., Ltd., Hamilton, Ont.

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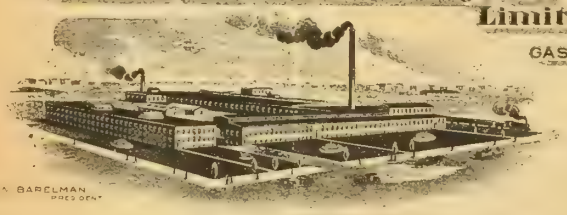
CABLE ADDRESS "GILSON" WESTERN UNION CODE

GASOLINE, GAS AND OIL ENGINES



PNEUMATIC ENSILAGE CUTTERS
HYLO SILOS
REVOLVING AND TILTING OFFICE CHAIR AND STOOL FIXTURES
GREY IRON CASTINGS ETC

"Goes Like Sixty" TRADE MARK

C. A. BARCLMAN PRESIDENT

OFFICE MACHINE WORKS AND FOUNDRY

Guelph Feb. 7/17.

The Editor, Farmer's Magazine,
c/o MacLean Publishing Co.,
University Ave., Toronto, Ont.

Dear Sir:-

The writer has just been looking over the February Farmer's Magazine, and desires to congratulate you on the excellent magazine you are publishing.

It is a pity that this magazine is not in every farmer's home, because it undoubtedly would mean a great deal to the country and to each individual farmer if this could be done.

You cover the different branches of farming so thoroughly and completely, and you carry such a nice clean line of advertising, and the reading matter is so helpful and instructive that we cannot resist the impulse to express our appreciation.

We note you say something about Pig Clubs, Calf Clubs, etc. We believe you could enlarge upon this with wonderful results for this movement has had a remarkable impetus in the States, and would probably be responded to very quickly in Canada.

We are going to show our appreciation in a practical way, by gradually increasing our advertising space in your paper, and we hope it will bring us returns that we feel it should bring on account of the high standard you are setting out to attain.

Yours truly,

The above letter comes from one of Canada's leading manufacturers of power machinery. The writer is a man who studies closely the farmer's problems and takes a keen interest in everything tending to improve conditions on our Canadian farms.

He knows that thirty years' experience in publishing trade and class papers places the Maclean Publishing Company and its Staff of writers covering every province, in excellent position to turn out a live up-to-the minute magazine for the farmers of Canada.

THE MACLEAN PUBLISHING COMPANY, Limited
143-153 UNIVERSITY AVENUE - TORONTO, ONTARIO

ing reckoned as in laying condition. In October the hens ate slightly less feed on account of moulting, although it was kept before them as usual.

Eggs were sold partly retail and partly wholesale, the greater part at wholesale prices. In November and December the cost of feeding was kept down partly by feeding cooked potatoes with mash in the middle of the morning. Potatoes cost nothing, being home grown and too small for household use.

Summing up the year's results I have:

Average number of hens	30
Number of eggs produced, 391 doz.	4,692
Selling value of eggs	135.25
Value of old hens sold	14.25
Cost of feed	67.15
Average cost to produce one dozen	17c
Average selling price per doz.	34 1/3
Average number of eggs per bird	156 2/5
Yearly profit	83.15
Loss, Jan. and Nov.	.80
Net gain for year 1916	82.35

Ground space occupied by runs and building was 50 by 100 feet.

Ground space for free range after three o'clock was one acre.—Mrs. Peter McTague.

Producing Hatching Eggs

By Morley Jull.

Simply because you have been told that you must not "count your chickens before they are hatched" you must not take for granted that you can hail the hatching season with potluck. Many farmers do not even watchfully wait for the approach of the hatching season, but, without taking any precautions whatever in regard to the production of good eggs for hatching, they accept conditions as they have always been unmindful of the unsatisfactory results of an unprepared policy.

You cannot hatch good chicks from poor eggs, nor can you hatch any chicks at all from infertile eggs. *The number of chicks reared in proportion to the total number of eggs set is the real test of the ability of the poultryman.* If you cannot hatch and rear chicks successfully you are pretty sure of being required to make other kinds of shells. The moral is that proper attention must be given to the problem of the production of eggs for hatching.

Eggs for hatching must be fertile. The only way of determining fertility is through incubation and *no patent devices nor guaranteed "methods" will prove of any avail in your desire to predetermine fertility.* The best you can do is to provide the best conditions possible for the production of fertile eggs. Good breeding stock in a high state of health is essential and in addition it must be well managed. There are very few farmers who appreciate the importance of good health and vigor in the breeding birds. "Like tends to beget like" and *unhealthy stock surely tends to produce weak chicks.* Give the baby chicks a chance by having them come from vigorous stock only and make it a rule of practice never to breed from a bird which has been diseased.

Before the opening of the breeding season the female should be selected with great care, choosing only those which are in the pink of condition, making sure to avoid the immature pullet. Yearlings make the best breeders though mature and well developed pullets may be used. Next select your male birds or purchase them from a reliable breeder and purchase from the same reliable breeder every year.

In other words, *do not be afraid of in-breeding*, for it will give better results than outcrossing provided constitutional vigor is maintained. Cockerels mated to mature pullets and cockerels mated to yearling females are good matings.

In general, place one male in the pen for every ten females. That is on the safe side, for there are many males which will look after more than ten females. With a small flock of fifteen female breeders one male should be sufficient, and with a flock of one hundred females eight cockerels should give a good percentage of fertile eggs — eighty-five to ninety-five per cent. may be considered good. Taking the average results for the entire breeding season it is very probable that leghorns and other like breeds will run higher in fertility than such heavy breeds as Brahmas. The lighter the breed the greater the number of females to one male.

The males should be placed in the breeding pen at least two weeks before hatching eggs are required. Likewise hatching eggs may be collected for two weeks after the males have been taken away.

High fertility, however, does not guarantee a good hatch. Besides being fertile the eggs should possess good hatching quality. *Fertility is not inherited but hatching quality is inherited*, so that in the advanced lines of breeding work attention should be given to the selection as breeders of those hens possessing good hatching quality. Some poultrymen claim that heavy winter egg production is detrimental to a high hatching quality, but this statement is not borne out in practice. Some of the best layers in the egg-laying competitions in Australia proved to be the best breeders and the opinion is growing in that country that heavy winter production does not necessarily impair the stamina. At the same time there does seem to be some co-relation between egg production and hatching quality. It is the opinion, however, that the hatching quality of heavy producers will be improved under better methods of breeding.

Now that you have provided adequate conditions for the production of a good class of hatching eggs it should be your business next to select the eggs carefully. You may be going to set about one hundred eggs only, but *they should be tested.* The object is to economize by saving those eggs which could not possibly hatch and in doing so you increase the chances for raising a larger number of chicks in proportion to the eggs set. *Eliminate all the poor eggs*, those which are much below the standard weight of two ounces, those which are too large, those which are too long or too blunt, those which have ridges and those which have thin or cracked shells. Therefore, test your hatching eggs carefully and eliminate those which do not approach standard requirements.

Hatching eggs should not be held over two weeks and the sooner they are incubated the better. Until they are put under the hen or in the incubator hatching eggs should be kept in a cool, well-ventilated room having a temperature between 55 deg. and 65 deg. F. While being held they should be turned daily.

In conclusion, the average farmer should bear in mind that a little improvement of conditions here and a little improvement there, along the lines suggested above, would do a great deal to insure an increase in the number of chicks reared in 1917.

It's the Healthy Hens that Give You Strong Chicks

Now that mating time has arrived, it's up to you to see that your poultry get a tonic and internal antiseptics to make them vigorous and free from disease. *Therefore, feed Pan-a-ce-a.*

In that condition your hens will lay better, you will get more healthy, fertile eggs and the chicks will stand a better show of reaching maturity. *Therefore, feed Pan-a-ce-a.*

Dr. Hess Poultry PAN-A-CE-A

It's a Tonic—Not a Stimulant

And, before the hatches come, I want to warn against gapes leg weakness and indigestion for these ailments are responsible for half the baby-chick losses. *Therefore, feed Pan-a-ce-a*—it will save you these losses.

My Guarantee

So sure am I that Dr. Hess Poultry Pan-a-ce-a will help make your poultry healthy, help make your hens lay and your chicks grow, that I have told my dealer in your town to supply you on condition that if Pan-a-ce-a does not do as I claim, return the empty package and get your money back.

DR. HESS & CLARK, Ashland, Ohio

Dr. Hess Stock Tonic Expels Worms
Conditions all animals, gives health, good digestion, keeps them toned up. Prepares horses for spring work and cows for heavy milking. 25-lb. pail, $2.25; 100-lb. sack, $7.00 (duty paid).

Dr. Hess Instant Louse Killer
Kills lice on poultry and farm stock. Sprinkle in dust bath and about roosts, nests and houses. Dust into hair of animals. Destroys bugs on cucumber vines, cabbage worms, slugs on roses, etc. Comes in handy sifting-top cans. 1 lb., 35c; 3 lbs., 85c (duty paid). Fully guaranteed.

I'll Save Your Veterinary Bill
When you have a sick or injured animal or ailing poultry, write me, telling symptoms. Enclose 2c stamp for reply, and I will send you prescription and letter of advice, free of charge.

1½ lbs., 35c; 5 lbs., 85c; 12 lbs., $1.75; 25-lb. pail, $3.50 (duty paid).

Give us a chance to prove to you that you can make money by working our plan.

Hundreds of men and women in Canada are making splendid salaries by working for us a few hours each day. Why not learn all about it?

If your regular position isn't producing enough money to take care of a few added luxuries—our plan will fit in splendidly, giving you as much extra money as your spare time will allow for. The more time you devote to the plan the more money you can make. To learn all about it—drop us a **Post Card**—back to you by return mail will come full particulars. This will not obligate you in any way. Simply say, "Send me full particulars of your money-making plan."

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Produce More Feed

Sow Canadian Albotrea Clover. The Best of all the Sweet Clovers :: ::

When other clovers fail, it succeeds. When common clovers are winter killed, it lives When they are heaved out by the frost, it stays; and when they give their maximum yield, it doubles them. Live stock like it better, thrive upon it better, and their condition will show it. At the same time it is the greatest nitrogen gatherer of all the legume plants; the greatest agency for fertilizing and mellowing the soil and for choking out and eradicating noxious weeds. CANADIAN ALBOTREA has been grown as a domesticated crop for years. It has been improved by selection, and its merits fully tested by experience. There is only a limited quantity of seeds available, so write us for descriptive pamphlet and full particulars.

Canadian Albotrea Clover Co.
Limited
154 Bay Street
TORONTO - ONTARIO

Even when grain prices are low

Crop Feeding Pays

but with crop values at present levels, the dollars you invest in fertilizers bring an even bigger profit which the good business farmer **cannot afford to overlook.** More fertilizer per acre and fertilizer on every acre together with better cultural methods will help pay the mortgage and put money in the bank account in 1917. A postal brings our free book, "Crop Feeding Pays."

Canadian Division
Soil Improvement Committee
of the National Fertilizer Association
Baltimore, Md. Dept. D. Chicago, Ill.

All queries must be accompanied by the writer's name and address. If personal answer is required, enclose a 3-cent stamp. Address all correspondence to Grasmere, THE FARMER'S MAGAZINE, *Toronto, Canada.*

Poultry Breeding

J.P.P., Ontario.—Would you advise the use of the same male in my flock of hens that I used last year? Do the birds deteriorate by such a practice?

Answer.—If the majority of your hens are sired by this bird, it would be better policy to get another of the bred-to-lay strain and keep on getting better. Naturally so.

Wants to Know Writer

A.C.C., Ontario.—Would like to get acquainted with the man (D. McG.) who wrote the article "Sheep Pay Algoma Mortgages" in your last issue.

Answer.—This man's address has been sent to you.

Pea Fowl

C.E., Ontario.—Where can I get pea hen eggs for hatching and about what price? Also Golden Pheasant eggs. Can you give me some pointers on raising pea fowl?

Answer.—We have no lists of these breeders. Perhaps some reader can send us where this man can get these eggs.

Golden pheasants may be obtained from Robinson Bros., Aldershot, Ont., and J. J. Gareau, St. Roche I'Achigan, Que.

Perhaps some reader can give the information.

Bridge Grafting

G.A.D., Ontario.—I have some apple trees girdled this winter that I would like to save. When they are girdled all the way around is it possible to save them, and how?

I wrapped part of my trees in tar paper which I think will be all right.

Is there anything I could spray on the bottom part of the trunk of the apple tree that would prevent mice from eating the bark?

The trees that were girdled by the mice are from 2 to 3 inches in diameter and about 3 or 4 inches up from the ground.

Answer.—It is a common occurrence in the spring for fruit growers to have some of their small trees girdled by mice. I have had several done in my own orchard and have successfully Bridge-grafted the trees so that they have lived and are doing fine since. I would advise you to cut the scions from the last year's growth on the top of the tree which is girdled and keep them moist, either in the mud at the bottom of the tree or in some sand in the cellar until you wish to use them. When you are ready to do the grafting which should be in three or four weeks now you will take a sharp knife and make an incision in the live part below the wound and one also corresponding to it in the live bark above the wound. Into each of these cuttings put your scions shaped smooth at each end so that the cambium layers of the scion and the tree come together fairly well. You can do this by a twig just long enough to enter these places and cover the damaged part.

After these twigs have been entered tie them loosely with a string that will hold them in place and then cover the union with grafting wax on both sides. This will keep out water and air and hasten union. When the tree is exposed or in danger of having these knocked off, I sometime wrap the whole with old cotton so as to protect from injury, and this can be taken off after the union has been effected.

You will find the job a very simple one and a very easy one and will save the life of your tree. I would put three or four of these bridge-grafts into the tree, according to the size of the tree.

I find that the wrapping of the tree with tar paper in the fall often saves the trees from attacks by mice and rabbits. I have never tried washing the bark with any substance to keep off the mice, but those who have done so say that a thorough washing with a strong solution of lime-sulphur will do the job. I would feel much safer though in using the paper or some wire protection.

About Bees.

Mrs. A. M., Seaman.—Please tell me where I can purchase bees and supplies, also literature on bees.

Answer. — Perhaps some reader can send us this information. Bee supplies can be purchased from seedsmen. Write Morley Pettit, apiarist O.A.C., Guelph, Canada, for bulletins on the subject.

Alfalfa Seed Growing

E.S., Ontario.—I would like some information about growing alfalfa for seed when planted in rows. Will it give a crop of seed same year as planted? When is the best time to plant? and will it grow seed more than one season, I would like also to know the best kind or kinds of beans to grow for the market and for crop and for ease of cultivation and handling.

Answer.—To me it is a waste of time to sow alfalfa in rows for seed purposes unless you are going to make a specialty of it. If the field is clean sow 20 lbs. of seed broadcast with a light sowing of goose wheat, say 1 bushel to the acre and you will get a good stand if the seed and land is inoculated. You cannot get much seed the first season. Yes, you can get seed

every season for 20 years if you can keep the plants fed well.

Peace's Improved Tree bean has given the highest yields in Ontario for the past five years, but it may be hard to get this seed this year. The white marrowfat is a good bean and is grown almost exclusively around Welland.

RANCH AND RANGE

S.B., Ontario.—Can you tell me where the paper "Ranch and Range" is published, what the subscription price is in Canada.. Also where is "The Ranch" published?

Answer.—Cannot locate any paper by that name. Perhaps you refer to the "Farm and Ranch Review," published in Calgary, Alta., subscription price, $1 per year. There is also a paper called "Farm and Ranch," published at Dallas, Texas.

Continued on page 75.

A Departmental Farm

Continued from page 61.

and a little oil-cake, with access to mangolds and skim-milk. Green cut bones twice a week are provided. On this diet they beat the cows and hogs in dividends on investment."

This flock was reared in colony houses 6 x 8 feet, each costing, complete, $16. In the summer these houses are in the fields; in the fall they are drawn up to the buildings and placed in a suitable location for winter.

The system of bookkeeping as introduced by the junior Shearer is unique in the annals of farm economics. They do not wait until the product is sold in order to count their income in a lump. On the first and fifteenth of each month the fattening hogs are weighed and the daily gain multiplied by the prevailing market price, so that it is a simple matter to calculate each day's wages. In the stable and the poultry yards the scales also serve as a ready reckoner. Last winter, Mr. Shearer informed the writer the gross income per day was $8.35—five milking cows returned $2.35; 29 feeding hogs yielded $3.60; 180 hens $2.40. It is hoped that by pushing each department a little harder to force the daily income up to $10.

It might be of interest to note that a five years' rotation is followed. Two years of hay and pasture is succeeded by a crop of mixed grain, after which manure is applied and the field planted to corn and roots. The fifth season sees the same field in oats and barley which is seeded down. In conversation with Mr. Shearer he told me that he was contemplating the introduction of wheat which would change his system to a six-year rotation. The mixed grain crop mentioned in the foregoing is grown especially for the hogs. The mixture is proportioned as follows: One and a half bushels of oats; three-quarters bushel of barley, and about four pounds of flax. The flax is sown from the grass seed box, care being taken not to harrow it too deeply into the soil. It helps to support the barley until the oats ripen and goes a long way toward making this crop a balanced ration.

IN British Columbia, Saskatchewan, Ontario, Quebec and Nova Scotia, our modern oil refineries are manufacturing from crude oil the lubricants which years of experience and expert analysis have shown us to be proper for the lubrication of the different machines on your farm.

These five modern plants, so located as to eliminate long railroad hauls, have aided directly in reducing to you the cost of the highest grade petroleum products.

AN OIL FOR EVERY FARM MACHINE

For Gasoline Engines, Tractor, Auto or Stationary.

POLARINE OIL
STANDARD GAS ENGINE OIL

For Kerosene Engines, Tractor or Stationary.

POLARINE OIL HEAVY
IMPERIAL KEROSENE TRACTOR OIL
(Recommended by International Harvester Co.)

For Open Bearings of Farm Machinery.

PRAIRIE HARVESTER OIL
—very heavy body, resists cold, won't thin out with moisture.

ELDORADO CASTOR OIL
—a thick oil for worn and loose bearings.

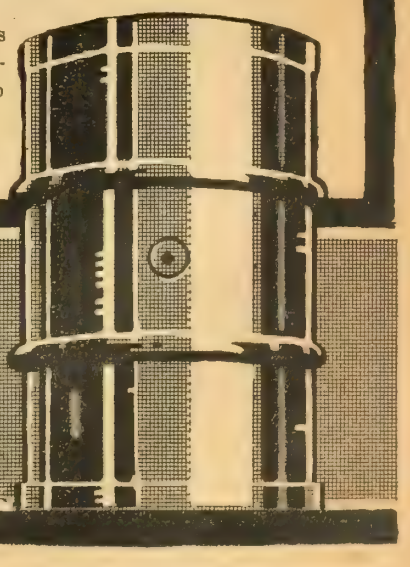
For Steam Cylinder Lubrication, whether Tractor or Stationary Type.

CAPITOL CYLINDER OIL
—the standard product for steam cylinder lubrication.

For Grease Cup Lubrication of Bearings.

THRESHER HARD OIL
—a clean solidified oil, high melting point.

All our oils are supplied in steel barrels and steel half-barrels—convenient, economical. No waste. You use every drop you pay for.



The Imperial Oil Company Limited

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IF IT LEAKS Get MENDETS A PATENT PATCH
They mend all leaks instantly in granite ware, hot water bags, tin, copper, brass, cooking utensils, etc. No heat, solder, cement or rivet. Any one can use them. Fit any surface. Perfectly smooth. Wonderful invention. Household necessity. Millions in use. Send for sample package, 10c. Complete pkg, asst. sizes, 25c postpaid. Agts. wanted
COLLETTE MFG. CO., Dept. H, Collingwood, Ont.

HINMAN
THE UNIVERSAL MILKER

You Cannot Afford To Milk Your Cows By Hand
BUT:—
Do Not Trade Your Farm For A Milking Machine.
Buy a HINMAN!
No complicated mechanism, and it is as simple as the grindstone, yet 'tis used on the world's best cows.
Write for Booklet A and surprise yourself
H. F. BAILEY & SON
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Manufacturers under Hinman Patents

PROTECT YOUR STOCK
increase your profits, comply with the sanitary demands of health authorities, milk companies, etc., and at a saving of time, cost and labor!
Make your stables, dairies, poultry houses and cellars bright, cheerful and free from lice, mites and the germs of infectious diseases! Instead of using whitewash and then a disinfectant, use
CARBOLA
The Disinfecting White Paint
It disinfects and paints at the same time.
It is a finely powdered mineral pigment combined with a germicide 20 times stronger than pure carbolic acid, but absolutely non-poisonous. Will not harm man, beast or fowl.
Ready to apply as soon as mixed with cold water—no waiting, straining or boiler as with whitewash. Can be applied with either brush or sprayer. Dries a clear white. Will not blister, flake or peel off. No disagreeable odor. If your dealer cannot supply you, send us your order and his name.
10 lbs. (10 gallons), 1.25 at Toronto.
20 lbs. (20 gallons), 2.50 at Toronto.
FRED SMITH
Distributor
32-34 Front St., W. Toronto, Can.

THE GARDENETTE OR CITY BACKYARD GARDENING.
By Benjamin F. Albaugh. Arranged to meet the needs of the beginner. Especially for those who have limited areas that are available for planting. Handsomely bound, $1.35 postpaid.
THE MACLEAN PUBLISHING CO., LTD., 143 University Ave., Toronto.

The Business of Dairying

Ayrshires Coming Up.

Altogether, to December 31, 1916, 258 mature cows gave a yearly average of 10,311 lbs. milk, 414.32 lbs. butter fat; average per cent., 4.02. 86 four-year-olds gave 9,456 lbs. milk, 385.35 lbs. butter fat; average, 4.07 per cent. 172 three-year-olds gave 8,493 lbs. milk, 348.32 lbs. butter fat; average, 4.10 per cent. 365 two-year-olds gave 7,562 lbs. milk, 311.07 lbs. butter fat; average 4.11 per cent. Average for the 881 cows and heifers, 8,711 lbs. milk, 355.82 lbs. butter fat. Average per cent. of fat, 4.083.—*W. F. Stephen.*

Jerseys Test High

B. H. Bull & Son, of Brampton, report a series of tests on a number of their Jerseys. The lowest test showed 4.1% butter fat and the highest 8.2%. The average of 16 cows under test was 5.51%.

Why Dairying Pays

Just why farms are built up by dairying is explained by the following table. The figures show the amount of money received for the products sold and the value of the fertilizing constituents removed from the farm based on nitrogen worth 12 cents a lb., phosphoric acid, 4½ cents and potash, 4½ cents:

Crop.	Value.	Manurial Value
1 ton hay	$ 12.00	$5.80
1 ton wheat at $1.....	33.33	6.65
1 ton live cattle at 6c...	120.00	7.68
1 ton milk at $1.25.....	25.00	1.60
1 ton butter at 30c.....	600.00	.36

Thus the dairy business removes very little from the farm's fertility.—E.M.R.

A Good Calf Feed

A successful dairyman who sends his whole milk off the farm uses the following mixture to make a thin gruel—a substitute for milk:—

100 lbs. ground oil cake.
100 lbs. low-grade flour.
25 lbs. ground flaxseed.

Value of Skim-milk

Skim-milks is more valuable as a food than cream. It furnishes protein about four times as cheaply as beef. Therefore, hot bread and milk and buttered toast covered with hot milk are excellent supper dishes.—F.C.M.

Holstein Expert Wanted

The Oxford District Holstein Breeders' Club passed a motion disapproving of the system of Government judges appointed for judging at the Fall Fairs and favored the choosing of Holstein experts for this work.

Grain Rations Vary

The ration is largely governed by the quantity of milk produced and the ability of the animal to convert the feed into milk. No dairyman can feed intelligently unless he makes a study of the individual animals he is handling. Many are finding out that it pays to increase the grain ration for some cows above the amount ordinarily fed.—M.H.

Holding Up Milk

When a cow holds up her milk, massage the udder gently for a few minutes before starting to milk, and let the cow have some relished feed to eat at milking times. Possibly she may let down her milk if a calf is placed near her.—R. A. D.

Ayrshire Big Record

I noticed in your March issue of the magazine your comparison of the different breeds of dairy cattle, you mention the Ayrshire cow, Auchenbrain Brown Kate 4th, as the highest record cow of the breed.

This cow has been surpassed by the grand cow Garclaugh May Mischief, "Imp." 27944, owned by Percival Roberts, Jr., "Penshurst Farm," Narberth, Pa., who produced $25,328 lbs. milk and 1,056 lbs. butter in one year. She freshened again inside of 15 months after the commencement of the test and would, therefore, have qualified under the Canadian R.O.P. Rules.

The Ayrshire breed, therefore, stands second to the Holstein in production of milk and fat.—E. A. McCook, Peterboro Co., Ont.

Holsteins in February

During the month of February the records of forty-six cows and heifers were accepted for entry in the Record of Merit. In the mature class Pontiac Jessie made a splendid record of 37.62 lbs. butter and 664 lbs. milk in 7 days and 153.45 lbs. butter and 2,287.3 lbs. milk in 30 days. Her best day's milk was 102 lbs. Pontiac Jessie now stands second in her class only to May Echo Sylvia for both 7 and 30 days. Mechthilde de Pride also makes a good showing with 28 lbs. butter and 639.2 lbs. milk. Madam Posch Pauline has completed seven months under official test with 19,131.8 lbs. milk and 780.56 lbs. butter.

Segis Mechthilde Korndyke leads the senior four year olds with 29.76 lbs., while Helena Burke Keyes and Inka Artis De-Kol stand second and third with 26.25 and 26.12 lbs. respectively. In the junior four-year old class Colony Dellah Korndyke comes first with 24.50 lbs. in 7 days. Edgemont Faforit Segis is the leading

senior three-year old with 24.45 lbs., while Pontiac Countess Echo is a good second with 24.13 lbs. Segis Cynthia is best junior three-year old with 21.02 lbs., closely fololwed by Princess Ruby Netherland with 20.75 lbs. and Countess Ladoga Mercena with 20.20 lbs. May Echo Posch, calving at 3 years and 29 days has now completed her full year under test at the Dominion Experimental Farm, Ottawa, making the great record of 24,458.7 lbs. milk and 1,008.47 lbs. butter. She stands second to Lady Pietje Canary's Jewel for butter but surpasses her for milk. No other heifers in Canada have yet equalled this pair in yearly production. Echo De-Kol 2nd is best senior two year old with 22.51 lbs. butter, while Lyons Pietertje May leads the juniors with 21.63 lbs. Daisy Pauline Plus is a good second with 18.21 lbs.—W. A. Clemons.

Our Rural Mail

Continued from page 72.

House Plans

Mrs. G.H.E.W., Nova Scotia.—I am enclosing a plan of our old farm house 26 x 20 *with ell on one side* 18 x 15 *and ell at back* 15 x 40. *I drew plans of how I thought to alter it this spring. Kindly give us your opinion.*

Answer.—I have gone over your plans for remodelling your farm house, with interest, and must congratulate you on the originality and practicability of your ideas. You have left little room for suggestions. Your living room will be particularly cheerful with its windows on two sides, and its fireplace. I would like wide sliding doors opening from here into the dining-room to give a vista right through, and so the two rooms could be thrown together, if desired. An open archway, without doors is not satisfactory, however.

Since the ell at the back makes the house rather rambling, it is a long distance to travel from the pantry or kitchen to the front stairs. If it would not cut up the floor space upstairs too much, I believe I would consider leaving in the back stairs which run up from the dining-room.

The room which you have planned for a pantry I would be inclined to take for a washroom, since the sink is here and with such a good sized kitchen you scarcely need a pantry if you could have some good cupboards and a dumb waiter in the kitchen. Otherwise I like the place immensely as you have planned it.—Genevieve.

Percheron Horses

J.H.P. Ontario.—Can you give me the names of persons or firms handling percheron mares.

Answer.—I am sending you by mail as requested a list of the leading breeders of percherons in Canada. There are other small breeders. A small classified ad. would have brought brought you some direct replies from these.

Pioneer Silo Builder.

Robt. Scott, of Warkworth, who died recently, is credited with being the father of the silo in Eastern Ontario. He built the first silo in Eastern Ontario about 30 years ago.

ESTABLISHED 1842

RAMSAY'S

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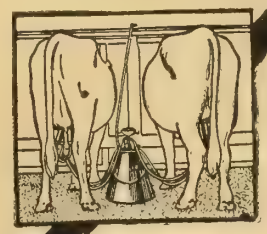


"With your Milking Machine I can Produce Milk of Superior Quality"

The writer of the letter below is known throughout his district as a keen and rather critical judge of dairying methods and equipment. They say he is a "crank" on quality! Certainly the John D. Duncan Co., of Montreal, are most particular about the purity of the milk they get for their patrons.

RIVERFIELD, QUE., Jan. 25, 1917

Gentlemen:—

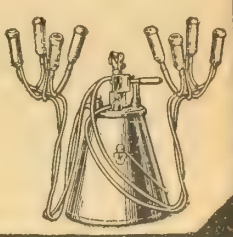
I have noticed some of the testimonials you are publishing and thought I would let you know how I like the Empire Milking Machine and Empire Engine which I purchased from you in the month of April, 1916. It has given entire satisfaction. I have had considerable experience with engines for many years, and am consequently in position to appreciate the merits of the Empire, and recommend same as one of the most reliable for milking machine and general farm work.

With your Milking Machine I can produce milk of superior quality, according to the statement of the John D. Duncan Co., to whom I have been shipping. I find that the machine is in no way injurious to the cows or teats, and no other trouble has been experienced. The speed at which the machine can milk is regulated by the class of cows and the quickness of the operator. J. R. McKELL.

EMPIRE
Mechanical Milkers

produce milk of high quality, at the same time that they save time, reduce expense, increase profits, and make it possible to keep up and even increase the number of cows milked, in spite of the growing scarcity of help. They certainly are worth investigation.

Write for Booklets explaining the correct natura principle on which the Empire works, and giving the experience of prominent Dairymen who are using it. Address Dept. H.



THE EMPIRE CREAM SEPARATOR CO. of Canada, Limited.

MONTREAL. TORONTO. WINNIPEG. 63

Try before you Buy.

ASK any one of our dealers to let you have a Viking on 30 days' free trial, and he will be glad to do so.

If you are not entirely satisfied with it at the end of that time, if you don't find the Viking "a better separator for less money," he will take it back and refund your money immediately. We consider the Viking sold for keeps only when you are pleased with it.

Descriptive booklet free. Dept. 8

SWEDISH SEPARATOR CO., 515 South Fifth Ave., Chicago, Ill.

VIKING CREAM SEPARATORS OF QUALITY (9)

REDUCE FUEL COSTS ONE-HALF

FOR FORDS AND ALL OTHER CARS

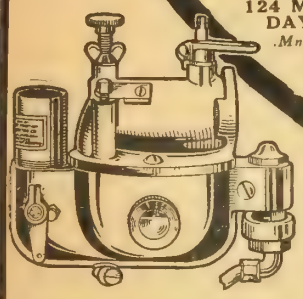
Start easy in coldest weather
More power and one-half more mileage

Air Friction Carburetors use cheapest grade gasoline or even half gasoline and half coal oil with excellent results.
250,000 enthusiastic users!
Start your car instantly and move off at once, while motor is cold (even zero weather) with no "spitting," "popping," or "missing." In other words, end your carburetor troubles.

AIR-FRICTION CARBURETORS

Newly Perfected Model for 1917.
If your dealer cannot supply you, write or wire us at once, sending his name and the name and model of your car.
30% off list price where no representative is already appointed.
Ask us about our 30-day trial offer.
Dealers, garages, and repair shops make greater profits and give more satisfaction supplying AIR FRICTION CARBURETORS, and spark plugs, than on any other accessory they can handle.

The Air Friction Carburetor Company
124 Madison Street
DAYTON, OHIO
Mnfrs. of carburetors for pleasure cars, trucks, tractors, and motor boats



DEALERS
Write or wire for our proposition

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50 cents per pound

Are you obtaining

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If not let us place a

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in your dairy and you will see your cream check grow

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King Separator Works
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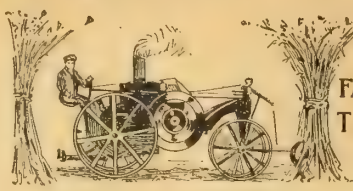
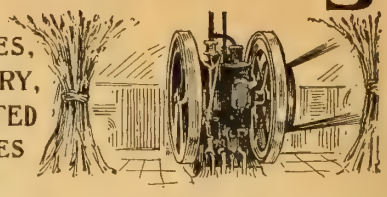
Bridgeburg - Ontario

Farm Engineering



MOTORS, ENGINES, FARM MACHINERY, TROUBLE LOCATED AND REMEDIES SUGGESTED.



Pounding With a Heavy Load

A common occurrence, but one that is mystifying to most operators of engines is the pounding that occurs at a time when pulling a heavy load, the engine slipping back to normal when relieved of the load. This is a pretty sure indication that there are carbon deposits in the cylinders. Preignition of the charge causes the pounding. The heat generated in the cylinder of the gas engine is greater with heavy loads than when the engine is running idle. The carbon becomes red hot from this intense heat and, therefore, preignites the charge. The fact that it sometimes preignites and the engine runs away is caused by the fact that while the charge is igniting, due to preignition, the adjustment of the spark control has no effect upon the ignition, as the carbon deposits ignite the charge without the use of the electric spark.—R. Gordon.

How to Keep Nuts Tight

Loose nuts on farm machinery are often the cause of much annoyance. When a nut is put on a bolt it should always have oil on the thread and on the face of the nut. Then the power applied by the wrench will slightly elongate the bolt and prevent its coming loose. In putting on a nut it should be tightened and slackened several times before it is turned up finally. This will bend the thread of the bolt against that of the nut and prevent shock in vibration. For applying the right amount of force to a nut, the ordinary wrench is not long enough to give the proper leverage. A piece of tubing slipped over the handle will increase its effective length by 50 per cent. and is a great assistance in giving the nut the final turn that is needed to prevent its coming loose.—R.G.M.

Another Tractor Meet

Plans are nearing completion for the holding of the Third Tractor Farming Demonstration for Eastern Canada, near Toronto, during the third week of September. Those of our readers who attended the demonstration last November on the R. J. Fleming farm, Pickering County, will remember with what success the light farm tractors turned the soil of Meadowbrook Farm, and to what an enthusiastic audience they showed their capabilities.

Manufacturers of farm tractors who have investigated the east as a tractor country feel assured that there is a large field for the smaller models. Sales during the past year have warranted such a view, and plans for the coming year are being built on an elaborate scale. The Third Demonstration will be more than usually international, as it is thought that the show this summer will draw almost as many from the Eastern States as from Canada.

While demonstrations will be held in the Western and Central States, the Toronto demonstration during September will be designated the "Eastern" one, and will draw from Ohio, New York, Pennsylvania and the New England States to the number of thousands of farmers. By a recent investigation it was found that one-fifth of all tractors sold in 1916 were purchased in Ohio and States east of that, including Eastern Canada. The Toronto Demonstration will draw from this territory.

The two former demonstrations were held in November, and it was generally stated by the farmers who wished to purchase, that machines bought at that time were not of use until Spring, and orders were not placed. For this reason the third week in September was chosen for the 1917 demonstration, thereby giving purchasers of machines an opportunity to get the value of them for fall work.

It is expected that practically all of the exhibitors at this demonstration will show at the Canadian National Exhibition, in Toronto during the last week in August and the first week in September. The week following will be devoted to attending the Ottawa or London Fairs, and the third week for the Tractor Demonstration, making it four weeks of tractor display that will place the machines before a million and a half of people. Eastern Canadian farmers have not had enough experience with the light farm tractor, but after a month of opportunity to see them, no such complaint should be heard.

The Third Tractor Farming Demonstration will include, as in former years, exhibits of all kinds of machinery used in connection with the tractor. The power machinery display will eclipse the 1916 show, from present indications, while the number of tractors that will show at the demonstration is confidently expected to reach the half-hundred mark. —R.G.M.

Horse-power

Have you ever seen a 30 horsepower stuck in the mud powerless to move itself? Then along comes a farmer with his team and pulls it out.

Have you ever seen a tractor that could not pull as much as a team? Now there is a reason. What is horsepower? Every engine made and sold is rated at a certain horsepower. The term is not clearly understood by many farmers and it is the object of the article to make it absolutely clear, it is not a mysterious word relating to something theoretical, but on the other hand it is a practical term that every farmer must know to intelligently buy a gas engine or an automobile.

WHAT IS A HORSEPOWER?

It does not measure the power of a horse. It is the name of a standard of measurement. The measurement of

power, just as you measure wheat by the bushel or sugar by the pound. When the steam engine replaced the horse in the coal mines of Britain the people wanted a comparative standard between this new method and the old, between the engine and the horse.

By careful observation of horses working in the English coal mines, Watt found that one horse was able to raise a weight of 150 pounds at the rate of 2½ miles per hour. This, of course, was determined by taking the amount of work performed by each of several horses over a period of several days and striking an average. The horses in this case raised coal by means of a rope running through an overhead pulley and down through a second pulley secured to the ground. The pull was horizontal.

The distance covered in one hour was 2½ miles. This is equal to 13,200 feet. To find the foot-pounds, then, multiply 13,200 by 150, the number lifted by the horse, and the result will be 1,980,000 foot-pounds of work performed by the horse in an hour. Dividing by 60, the number of minutes in an hour, we get 33,000, or the number of foot-pounds per minute, and this amount of work performed in a minute of time was set down by Watt as his unit of power—one "horsepower." Horsepower then is simply a term given to express a unit of power.

This power may be developed in the cylinder at the fly wheel, or at the drawbar of an engine, auomobile or tractor, windpower, animal power steam or gasoline it makes no difference all are standardized on this common basis.

THE HORSEPOWER THEY CAN PRODUCE

Three factors enter into this calculation:

1. Time in minutes.
2. Distance in feet.
3. Pull in pounds, usually measured with a strong spring balance.

If a horse were walking at the rate of 2½ miles per hour, and exerting a pull on the tugs of 150 pounds, the effective power he develops is:

150 (pounds) x 5280 (feet in one mile) x 2½ (miles per hour) ÷ 60 (minutes in one hour) x 33,000 (one horsepower) = 1 H.P.

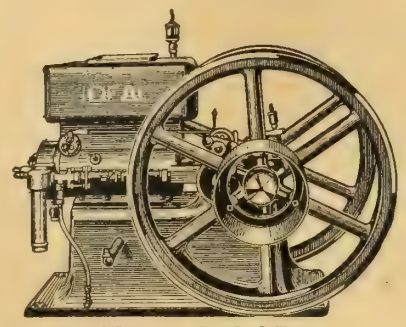
Again, if a man lifts two sacks of wheat each weighing 100 pounds, five feet high in a minute it would take him 33 minutes to develop one horsepower. 100 x 2 x 5 x 33 = 33,000 foot-pounds of work, or as much as a little gasoline engine for one horsepower can do in one minute. A man who would and could do this amount of work all day for 11 hours of time would then be developing 20 horsepower hours of work in 11 hours of time. A one horsepower engine could do this amount of work in 20 minutes.

An engine developing 10 horsepower could do the same work in two minutes. That is to say a 10 h.p. engine could develop as many foot-pounds of work in 10 hours as 33 men could if they lifted the two sacks of wheat five feet high every half minute. With gasoline at 40c. a gallon it would cost about $3.60. The engine, if treated properly, could do this work every day in the year and be none the worse. Of course, the gasoline engine requires a certain amount of fuel and oil to drive itself and overcome friction before it can develop any power at the belt. But so do men, and it would

"We Should Worry"

Gasoline 30c

That is what farmers say when they own a "BRANTFORD"



Our Hopper Cooled Design

Our Catalogue shows a number of labor-saving machines which will help you in your farming and labor problems. Ask us to send you one.

A "**Brantford**" Engine makes farmers independent of the high cost of gasoline—it gives dandy, dependable service when run with Coal Oil or Naphtha—the saving made very quickly pays for the "**Brantford.**"

The Brantford is an all-purpose farm engine and a valuable help to the farmer confronted with the scarce-labor problem. It is a dependable, no trouble engine—a preventive against worry.

Our Portable, Stationary and Tractions have no equal for steady, reliable performance. THE BRANTFORD LINE is a dependable line. Each engine is guaranteed. Investigate "BRANTFORD" advantages.

The "BRANTFORD" Windmill

lives up to the "Brantford" reputation for absolute dependability and satisfaction. The name BRANTFORD on any farm machinery is a guarantee of full value and trustworthiness.

"BRANTFORD" Feed Grinders

are genuine money-savers — they cut down feed expenses and give animals the full value from their feed.

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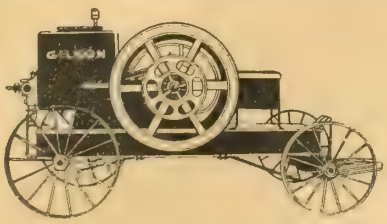

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You need an engine—get a Gilson on our new easy payment plant, and it will pay for itself. You have the work for it to do this Fall and Winter, help is scarce and high-priced—save yourself a lot of worry and enjoy that "feeling of security" which is such a definite part of the staunch, reliable Gilson Engine.

Gilson Engines have long enjoyed an indisputable reputation for dependability, power, simplicity, and economy. This year finds us with an even more attractive proposition for the discriminating buyer. Prices of everything you have been buying have been soaring, but, by careful management, we are able to furnish Gilson Engines at remarkably low prices. Write to-day for catalogue, price, and easy payment plan, stating what size you are interested in

GILSON MFG. CO., Ltd, 2515 York St., Guelph, Ont.

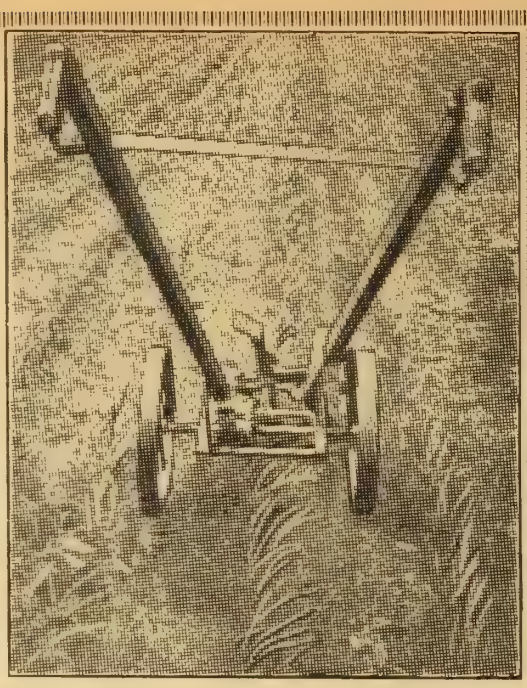
Increased Production in Onions

Labor Saved
Bigger Profits

These are the benefits and advantages of using the **Bruner Onion Weeder**

It is the greatest labor- and time-saving implement in the Onion Field. With it one man can do the work that takes ten men to do by hand.
It takes the weeds out that are directly in the row

You need the "Bruner" to increase your onion profits—Send for particulars of its advantages.



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No Grinder Like FAMOUS "RAPID EASY" For Any Power You Use

Tens of thousands in use, giving greatest satisfaction. Plates most economical of power and unsurpassed in durability

FARM MACHINES.

No. A— 6 -inch Plates (Flat)	- -	3 to 6 H.P.
No. A— 7 -inch Plates (Flat)	- -	4 to 8 H.P.
No. B— 8¼-inch Plates (Flat)	- -	5 to 8 H.P.
No. B—10 -inch Plates (Flat)	- -	8 to 12 H.P.
No. 1— 8 -inch Plates	- - - -	5 to 8 H.P.
No. 2—10 -inch Plates	- - - -	8 to 15 H.P.
No. 2A—12 -inch Plates	- - - -	10 to 18 H.P.

CUSTOM MILLS: Flat Sectional Plates with Centre Breakers.

	H.P.
No. D— 9¾-inch -	8 to 12
No. D—11 -inch -	10 to 15
No. 6—11 -inch -	12 to 20
No. 7—13 -inch -	15 to 25

"ATTRITION" MILLS: Both heads revolving; opposite directions. Exceedingly fine grinding.

	H.P.
No. 13—13-inch -	15 to 25
No. 16—16-inch -	18 to 30
No. 18—18-inch -	25 to 35

Ask for Catalogue or Circulars. Tell us the power you use and we will advise best machine.

J. FLEURY'S SONS, AURORA, ONTARIO,

Medals and Diplomas, World's Fairs, Chicago and Paris

BUILDING A HOME

This is the title of a book, designed to inform all those about to build a new home, or make over an old one, concerning the problems which arise inevitably, such as

choosing the site
the owner's own ideas
selecting the architect
choosing a builder
the construction of the home, and so on

The book has been prepared by H. W. Desmond, editor of *The Architectural Record*, and H. W. Frohne, associate editor, and so is the work of men of broad experience and fine judgment.

This volume is very handsomely put up, and is worth many times its price to every prospective builder. Sent post paid on receipt of price, $1.50, with 15c extra for postage.

THE MACLEAN PUBLISHING COMPANY, LIMITED
143 University Avenue - - Toronto, Ontario

cost more to feed 33 men than to buy gasoline for the engine. You say we have all winter to do the work. Perhaps so, but could you not employ your time to better advantage at more profitable pay? One man is worth $3 a day, another is not worth his board; the same is true of engines. The poorer the man the more he eats, so it is with the engine. So the cheapest engine to begin with may not be the most profitable in the end. I have followed a plow, so have you; it's simple, when you know how, but if you don't it is not at all easy. If a man has brains enough to manage a farm in these days, he can very easily manage an engine and teach some of his help to do so. A little study and good common sense and the farmer can give up making a horse of himself.

A reader inquires how to babbit the bearing of a 20-horsepower engine. The bearing is in two pieces and he wants to babbit both halves at one time.

You can babbit both halves of split bearing at one time. Proceed as follows: First cut out heavy pieces of cardboard so that they will just slip over the shaft and fit against the ends of bearing. They are to prevent the babbit running out at the ends. Next block the shaft in the position it should occupy and fit shims between the two halves of the bearing so that the shims, when the top half is bolted on, will just touch the shaft. You should now cut V-shaped notches in the shims on the edges touching the shaft. When the metal is poured in the upper half of the bearing it will run through these notches to the lower half. The two halves can then be easily separated by a chisel, when the babbit has set. When fitting the bearing for pouring, first warm the shaft and bearing with a blow torch or a piece of hot iron. Next bring the two pieces together and bolt them, then put the pieces of cardboard at the ends holding them in place with moist clay or putty. Plaster it all around so that the babbit cannot escape. In some cases you can pour babbit in through an oil hole in the top, but if this is not convenient you will have to make a cup with clay or putty and pour the babbit in from the end. To do this you will have to cut out a piece of the pasteboard to let the babbit run in freely. The babbit should be heated until it will brown a pine stick, when it will pour easily. It must be poured as quickly as possible. After it has solidified separate the two halves and dress the rough edges. The shaft is then taken out and the bearing slightly scraped on both the top and bottom. The oil grooves can now be cut and the oil hole in the upper half drilled out. After which the bearing may be fitted and the bearing bolted together.—J.M.S.

Flooding the Carburetor

The flooding of the carburetor of the gas engine is usually caused by two things, a leaking float and dirt in the needle valve. If there is any foreign substance in the fuel, the valve will be prevented from working properly, in which case the fuel will flow into the float chamber, thereby flooding the carburetor. Cork is sometimes used as a float, and this cork becomes soaked with gasoline to such an extent that considerable weight is added to the float. If this is the case, it should be removed and dried thoroughly, and then given a coat or two of good shellac, which will relieve the trouble.

Why not get 20% MORE GRAIN Per Acre in 1917?

"More grain—more grain" the Empire Calls. This year, 1917, must be one of supreme effort in the British Empire. You Ontario Farmers are called upon for a 20% increased grain crop. It is sorely needed. You can get it without extra labor. Let brain power help out.

Fan 3 bushels of grain to get 1 bushel of seed

"What's the first thing to do to get your seed right?" a successful Ontario farmer was asked. "Use the fanning mill," said he. "Alright, then what?" "Use the fanning mill," he replied. "Well, and after that?" "Use the fanning mill," was the answer.

Remember, you go through practically the same labor in sowing weak, dirty seed that you do in sowing clean seed. And—remember—practically the same labor at Harvest. CLEAN SEED—there's the answer to the 20% increase.

Prices for your grain crop will probably be abnormally high this year. Are you willing to help the Empire in her life-and-death struggle by producing more foodstuffs?

Perhaps you have not been able to get pedigreed seed. If you can get it—pay the price. It will pay YOU again and again.

Otherwise, we suggest this: Go to your granary, select three times the amount of grain required for seed purposes. By use of the fanning mill, clean it once—clean it twice—clean it three times—or until you have just sufficient for seed purposes. If you want 100 bushels of seed you should fan it out of 300.

Use proper sieves and plenty of wind in the mill and the one-third part remaining will be the largest and plumpest seeds which are naturally the most vigorous. Vigor in seed is just as important as in live stock.

This may seem troublesome. Perhaps it is. But do it for your Country's sake. Do it for those gallant Canadian lads in France. If for no other reason, do it because it will pay you more handsomely than anything else you can do.

Two bushels of oats will sow an acre. The extra return from good seed will be from 5 to 10 bushels per acre—decidedly more in some cases. Supposing it brings only 60c per bushel. There's a pretty safe extra $6 per acre—with practically no extra labor, either at seeding or harvest.

Twenty per cent. increase from clean seed is not guess-work. It's a proven, scientific fact.

Just think of the enormous extra tonnage that will go to help defeat the barbarous Hun from Ontario

Yield 1915.	Bushels	20% Increase 1917.	Bushels
Wheat	28,176,960	Wheat	33,812,352
Oats	120,217,952	Oats	144,261,542
Barley	19,893,129	Barley	23,871,755
Peas	20,430,490	Peas	24,516,588

A mighty stroke for the Empire. Remember it's a food struggle as much as a military one. The best fed Empire is the one most likely to win.

More labor is coming—we are getting you thousands of enthusiastic helpers from amongst the business men, retired farmers, high school boys, town and city women, etc., etc.

Get the Smut Out of Your Oats

Many tens of thousands of bushels of oats are lost annually, due to the ravages of smut. This waste can be largely eliminated by proper treatment of the seed.

Secure 1 pint of formalin for every 20 to 30 bushels of oats required for seed purposes. Dilute with 42 gals. of water and use a barrel in which the bags of grain may be immersed for 20 minutes. Spread out to dry and then place in new bags or in bags that have been treated in a similar manner and thoroughly dried, thus preventing re-contamination.

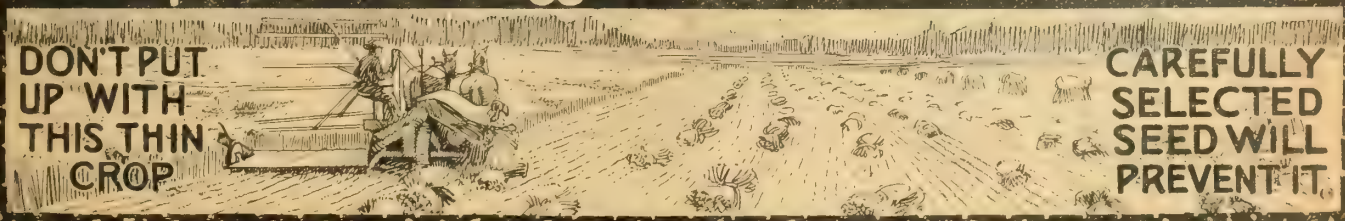
Consult the nearest District Representative of the Department of Agriculture if you are not familiar with this work, or communicate with the Department of Agriculture at Toronto. We are keen to help you with labor—with suggestions—with the names and particulars of those who have seed for sale—with advice on any point that may be troubling you. Don't hesitate to write us fully at any time.

ONTARIO

ONTARIO DEPARTMENT OF AGRICULTURE

SIR WILLIAM H. HEARST,
Minister of Agriculture
Parliament Buildings
TORONTO

The Empire calls for bigger GRAIN CROPS from ONTARIO



McLAUGHLIN

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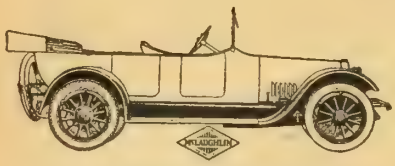
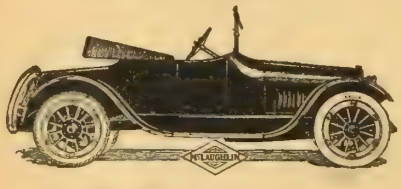
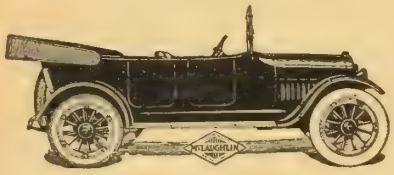
VALVE-IN-HEAD MOTOR CARS



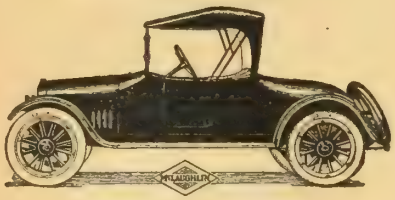
McLAUGHLIN D-SIX-45 SPECIAL
Five Passenger Touring Car.



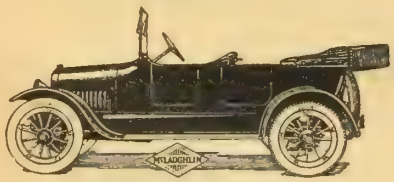
McLAUGHLIN D-SIX-44
Roadster.



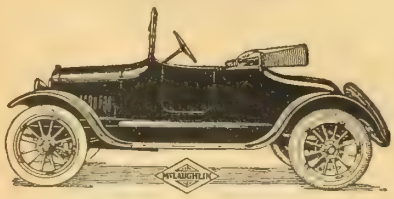
McLAUGHLIN D-SIX-63
Five Passenger Touring Car.



McLAUGHLIN D-SIX-62
Roadster.



McLAUGHLIN D-FOUR-35
Five Passenger Touring Car.



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McLaughlin reputation, pre-eminently firm and fair, was not won by chance, but is due to the policy established and consistently adhered to for forty years in the manufacture of high grade vehicles. With the production of the first McLaughlin motor vehicle the same policy was conscientiously followed, that of giving the owner the maximum service for the minimum of cost.

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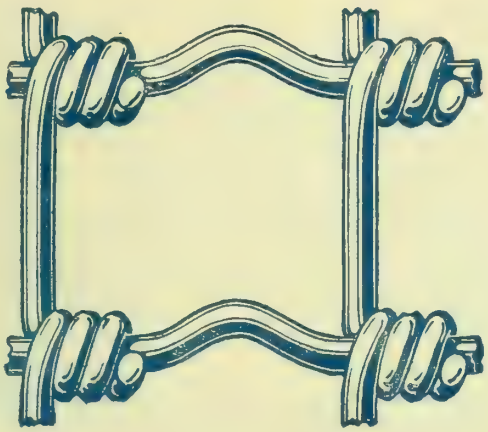

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12. It is the AMERICAN FENCE which guarantees you real value.

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THE FARMER'S MAGAZINE

THE MACLEAN PUBLISHING COMPANY, LIMITED, MONTREAL, TORONTO, WINNIPEG

Volume X | TORONTO, MAY, 1917 | Number 7

Summer Pasture Insures Profits Without Extra Labor

The Department of Agriculture makes suggestions which will keep the herds thriving during the hot, dry spells.

July and August are the hot, dry months when flies are very troublesome. Too often cattle roam over large areas and obtain food with difficulty.

The loss in milk flow is 30% of a year's normal yield. The farmer must supply the food in that form whereby the cattle can readily be satisfied.

Three systems may be followed: (1) Provision of Ensilage, (2) Soiling and (3) Summer pasture.

Many have not provided ensilage this year and the soiling system involves labor just when it is badly needed elsewhere on the farm. But, the summer pasture idea involves no labour and is easily provided

The seed per acre needed is one bushel of wheat, one bushel of oats, one bushel of barley, seven pounds of Red Clover.

Sow about May 20th. When six or seven inches of growth takes place you can commence pasturing.

If pastured sufficiently to prevent heading out, growth will continue through August and give you a big milk supply and a thriving herd.

Prices are good and you will add to the food supplies of the Empire

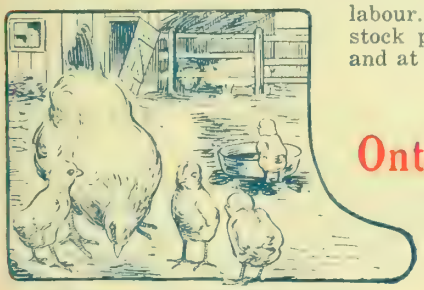
ONTARIO

Write Ontario Dept. of Agriculture, Toronto, for Summer Pasture Facts.

BIG INCREASE WANTED IN EGGS AND POULTRY

Eggs are in great demand in Canada and Great Britain. Canada's population is increasing and the consumption of eggs per capita increased from 13.72 dozens to 17.39 dozens in ten years. Great Britain normally imports over 200,000,000 dozens yearly, but the war has cut off several sources of supply. Canada had imported eggs, but in 1915 she exported over 3,000,000 dozens to Great Britain. Canada can increase these exports and compete with other nations. The home and foreign market warrants every farmer in doubling his flock in 1917. Make poultry raising a real part of farming. Give the boys and girls a chance to develop it.

The flocks can be doubled with practically no extra labour. More grain will be converted into a live stock product which is *profitable, good agriculture* and at the same time *patriotic.*



Poorly Fed, Neglected Small Brood
(Doesn't Pay)

Send for Poultry Bulletin today to

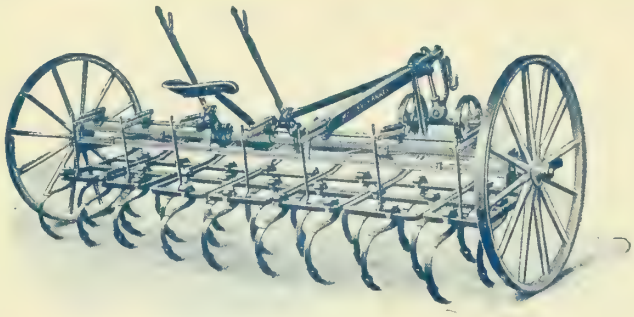
Ontario Dept. of Agriculture

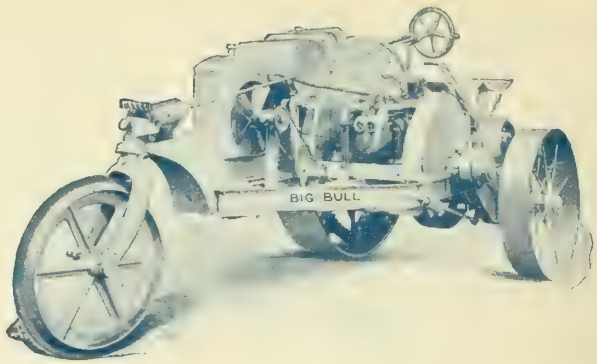
Parliament Buildings, TORONTO

SIR. WM. H. HEARST,
Minister of Agriculture

G. C. CREELMAN,
Commissioner of Agriculture

Good Breed—Good Feed—Big Brood
(Pays Well)





Increased Production with Less Help

Large implements drawn by tractors will make possible the increased production so urgently needed at this critical time in the World's History.

The need of increased production is now realized by all. In all sections of the country the shortage of help is a serious handicap. The use of tractors drawing machines of large size offers the only solution of the matter, and we are in a position to furnish the implements best adapted for effective, economical work.

Not only in the Springtime, but all through the Summer and Fall, the tractor will prove its usefulness. It is always ready, never tires, and costs nothing for keep when not working.

Having made a careful study of power farming, the implements we offer for the purpose are especially adapted for use with tractors.
They are made in suitable sizes, have ample strength, are equipped with the proper hitches, and the matter of convenience of operation has not been overlooked. See the local Massey-Harris agent, or write nearest branch.

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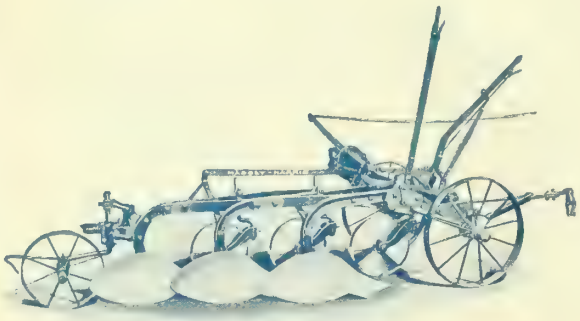
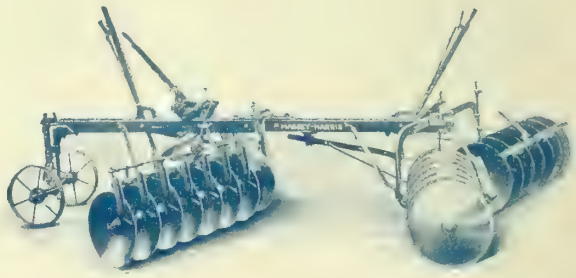
Massey-Harris Co.
Limited

Saskatoon, Yorkton, Calgary, Edmonton, Swift Current





Photograph of Canadian Oil Companies, Limited, Petrolia, Ontario, Refinery

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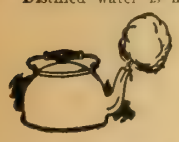
is one institution properly considered National in character, producing only highest quality products. It enjoys the merited confidence of hundreds of thousands of Farmers, and in all its history its trade-mark brands, **NATIONAL Petroleum Products,** stand for a Square Deal with the biggest dollar-for-dollar values

Secretary and General Mgr.

Why NATIONAL Carbonless Motor Oil Is Better ---Why It Costs More---How It Is Made

Steam that escapes through a tea-kettle spout, if caught and condensed, would be pure water. Distilled water is manufactured on this same idea, only on a larger scale.



Along the sides and at the bottom of the tea-kettle, scale is formed and accumulates — the residue that is left over after the passing of the water into steam.

The same principle that manufacturers of distilled water use is carried out largely in the manufacture of National Carbonless Motor Oil.

Imagine a tea-kettle that will hold 25,000 gallons, then you have some idea of an oil still, used for this purpose. Into these huge stills goes selected Crude Oil from which National Carbonless Motor Oil is always refined, where the oil is heated until it forms a vapor. This vapor is then condensed into a liquid distillate (the same as the vapor from a tea-kettle spout becomes condensed), further refined and then filtered. The result is a clear, clean, carbon-free motor oil—National Carbonless Motor Oil. Residue oils left over in the still never enter into the manufacture of National Carbonless Motor Oil. Where such residue is used an oil is made of very inferior lubricating properties, and can be and is sold at one-half the price of National Carbonless Motor Oil made as by our own scientific process.

A motor oil loaded with residue will break under heat and fail to perform its function. The residue and deposit which becomes incandescent, causes pre-ignition under heavy duty, and finally, after continued use, coke-like carbon forms. Just as scale is formed in the tea-kettle.

Suppose you catch and condense escaping vapor from the tea-kettle spout? You have pure water. Place this distilled water in a brand new tea-kettle and reboil it—you will find little, if any, scale in tea-kettle No. 2. The same experiment applies to National Carbonless Motor Oil.

National Carbonless Motor Oil, distilled into a vapor, is further refined and then filtered—leaves no carbon, and lubricates most efficiently.

Why pay hundreds or thousands of dollars for a fine motor car and break it down long before its time by unjustly using low-grade, carbon-forming, ordinary motor oil? Why put up with all the many nuisances? Why not always know positively that your motor car, of whatever make, is perfectly lubricated, as it always will be with National Carbonless Motor Oil?

The amount of money a motorist spends for motor oil is really one of his smallest expenses. It is comparatively a trifle in the long run when satisfaction and perfect motor car efficiency are considered.

National Carbonless Motor Oil is a perfect product. It is the last word in quality, the recognized highest grade Motor Oil, and is **your best insurance** against repair bills caused by faulty lubrication.

Use National Carbonless Motor Oil from every point of view of satisfaction and permanent economy for perfect lubrication of any make of car.

Other NATIONAL Products

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NATIONAL MOTOR GREASE. For Differential, Compression Cups, Transmission; gives perfect lubrication and is manufactured especially to be used for any and all purposes, all around the motor car.

BLACK BEAUTY AXLE GREASE. Insures a smooth, friction-free, wear-resisting axle. No compounds to clog and gum. Goes farther than ordinary grease. Buy it by the pail.

This Handy Oil Can FREE. A slim, long-spouted can—will oil hard-to-reach parts.

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My Name is.....

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Tear or Cut Out---Mail Today

NOTE—This can will not be sent except to Owners of Tractors or Automobiles when you fill out coupon complete, please. Not for boys or girls.

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Rich with your favorite filling, good pie crowns the meal it graces. Housewives who excel in pastry will tell you that pie is at its very best only when wrapped in a FIVE ROSES crust. So hard will the children find it to catch up with their appetites, that never again will you be satisfied with a lesser flour than

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Why Does Puff Paste Puff ?

Every time you fold and butter a pastry dough every time you roll it, you add an extra flake. When the heat expands the cold air between the buttered flakes, each layer puffs and springs happily in the oven. The colder the dough, the more it puffs. Because FIVE ROSES has elasticity to spare, you can fold and roll your pastry much thinner without snapping. Because FIVE ROSES resists fat absorption, your pastry is seldom soggy; nor do the layers stick together—the shortening acts as an impenetrable coating between the flakes. Because FIVE ROSES is ground to uniform fineness, your pastry puffs evenly in the oven, and you get that even flakiness of texture so much desired—thin as silken paper. Insist on FIVE ROSES

Over 27 years' experience attests its value in Pie Crust, Puff Paste, and so-called ***difficult*** things.

To the well-raised crust it gives a clear, dainty appearance, a golden creamy bloom.

Its presence is readily perceived in the lively, close-grained flakiness that melts away on the tongue tip. And the witching flavor lingering on the soft palate is Nature's toothsome contribution to this pastry treat.

You who have so successfully used FIVE ROSES in other foods, try it now in pies and pastry.

Let your folks enjoy the flower of the pie family, a truly succulent, tasty article that retains till eaten its crisp freshness.

FIVE ROSES brings more, it brings flour ***economy.*** With the same amount of shortening and water, simply because of uncommon strength, you use at least ***one-fifth less flour.***

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The famous FIVE ROSES COOK BOOK strips Pastry Baking of its mystery.
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The Farmer's Magazine

JOSEPH McGOEY, Manager. F. M. CHAPMAN, Managing Editor.

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"Is that you, Bob? Well I'm phoning from Bill Parker's place. I got as far as Clover Hill when I developed engine trouble. She doesn't spark properly. I wish you would go to that big box in the far corner of the Garage, pick out a couple of those Plugs marked "Jumbo Molite" and fetch them to me on your Bike. You'll have to hustle because I've only half an hour to get this Milk on the 5.15 train."

¶ That's the way it goes. Just little time saving incidents like this in the every day life of the 130,000 progressive Canadian Farmers who have Telephones, is what is helping to keep the Business of Agriculture at the top of the Nation's Industries.

¶ To the woman on the Farm, the Telephone has proved the greatest boon. It keeps her in touch with her neighbors and the various social activities of her community. It banishes loneliness and creates contentment.

¶ But its greatest value comes in a case of emergency—when time is the greatest factor and the doctor or vet is wanted. The Telephone will reach them quicker than any other known method and it only takes one such incident to make it pay for itself several times over.

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The FARMER'S MAGAZINE

Volume X TORONTO, MAY, 1917 Number 7

Cottage and Butter Milk Cheeses

Wholesome and Appetizing Relishes Made From the By-Products of the Dairy

By BELLA MILLAR

WHEN the composition of skim milk is compared with that of whole milk we find that although skim milk lacks fat it contains all of the other milk constituents.

Cottage cheese and skim milk supply us with valuable protein at low cost.

There are two methods used for making Cottage cheese from skim milk; one by using rennet, and the other by applying heat to soured milk. The latter method is the better known.

Those who have made Neufchatel cheese will notice that Cottage cheese made with rennet is made along the same lines.

In the morning bring sweet skim milk to a temperature of 70 to 72 degrees and to each gallon (10 lbs.) add about one-half of a teaspoonful of good flavored sour skim milk or buttermilk.

Late in the afternoon raise the temperature to 70 or 72 degrees if it has cooled, and add five drops of rennet extract (diluted with cold water) for each gallon of milk. Stir well, cover and leave undisturbed until the next morning. The curd should then be firmly coagulated and ready for ladling out on a draining rack covered with cheesecloth or muslin.

After the curd has drained for a short time raise the cloth at one side to roll the curd to the centre, then lift the other side in the same manner. When the curd has drained a little longer it will be firm enough to allow pressure to be applied. To do this fold the draining cloth over the curd and place between two boards with a very light weight on top. As the curd drains and becomes firmer greater pressure may be applied. When the curd is well drained, mix it well with a knife or put through a meat grinder.

Add salt at the rate of one ounce to four or five pounds of cheese. A small amount of cream—about one ounce to a pound of cheese—is an improvement. Mix well and when the salt is dissolved put it up in any desired package.

Good flavored sour skim milk can be quickly made into cottage cheese by applying heat. Place the vessel containing the milk in a larger vessel of hot water; a double boiler is suitable if only a small quantity is to be made.

Stir gently and beat the milk gradually until there is a separation of the curd from the whey. The temperature required for heating is usually about 100 degrees, but lift the milk out of the hot water as soon as the whey is clear. Overheating gives a dry crumbly curd.

Pour the curd into cotton bags and hang it up to drain or pour it out on a draining rack covered with cheesecloth or muslin. When the curd has drained sufficiently, add one ounce of salt to each four or five pounds of cheese, also add about one ounce of cream to each pound. The amount of cream required will vary according to the condition of the curd, a dry curd needing more than a moist one.

Cottage cheese is salted lightly to suit the people who prefer to eat it with sweets, such as syrups or preserves. Those who mix it with chopped pickles, pimentos, etc., will not object to heavier salting.

Buttermilk cheese is gaining in popularity as it becomes known.

It is made in much the same way as the Cottage cheese just described.

When heating the buttermilk, stir just enough to ensure even heating and raise the temperature to 130 degrees to 140 degrees.

When heated, cover the vessel to retain the heat and let it stand about an hour before draining. Drain the curd in the same manner as the Cottage cheese and when firm enough add the salt. A small amount of cream is an improvement although many make it without this addition. A little pepper added to this cheese gives a flavor that is liked by some people.

Those who are fond of Cheddar cheese will add a small amount of Club cheese or finely ground Cheddar to the Buttermilk cheese. They will also add a few drops of cheese coloring. When thoroughly mixed, the color will be uniform and the flavor improved.

Those who like cheese salads will find many ways of using Cottage cheese. Making it into small balls, sprinkling them with chopped nuts and serving on shredded lettuce, is a quickly made and inexpensive dish.

Slices of cucumber may be used in another fancy salad.

Our greatest prairie product—happy children on the flower-covered wild land near High River, Alberta.

EDITORIAL

THE FOOD CRISIS

A GREAT cry has gone forth in America for increased production. Peoples all over the world are in hunger. Starvation stalks openly in many parts of old Europe and Asia. Supplies of food stocks in the world are short. David Lubin, of the International Institute of Agriculture at Rome, estimates that all the world's available food stuffs will only barely last till the 1917 crops come in. If nature is not unusually beneficent, the 1918 dinner pails will know what real privation means.

The crop reports this year are not over encouraging. The U.S. fall wheat is reported only 65% of a normal crop. The Argentine crop is short and an embargo is on its wheat export. Ontario acreages are likely to be less than last year. In 1916 they were 365,000 acres less than in 1915. Bread in England is now the highest since the Crimean war. The U.S. and Canada packers are seriously advising meatless days in our big free continent. Prices for wheat are already ahead of anything since 1869, while cattle, sheep and hogs are reaching unbelievable levels. Hogs will be 20 cents before they turn. Wheat, says Dr. Creelman, will likely touch $4 before the break. Indeed, the man who regards the situation without alarm is either ignorant or insane.

Agricultural officials are busy trying to handle the situation. City organizations are meeting together in a truly unselfish endeavor to assist agriculture. Conferences are being held in all the provinces, the object of it all, being the awakening of the farmer to the real menace, and of the townsman to his duty in the matter of solving the acute farm labor problem.

The real tragedy of the situation is revealed in the utter helplessness of ordinary counsel and leadership in such a crisis. The Resources Committees have seen the vacation proposal fall down because of its utter physical impossibility to grapple with real conditions. The proposals for placing farm-born citizens on the farm for periods varying from 4 to 8 months at military pay, the balance of pay being supplied by the business employers, meets the situation much better. Some success is attending this move. But more is needed.

The farmer can no more produce under emergent conditions than can the munition worker, without proper machinery. And power machines are not as numerous on Canadian farms as our advanced position in agriculture would expect. The depleted farms have been slow to replace the labor by machines.

The farmer is too conservative in this regard. But this conservatism is not characteristic of agriculturists only. Every business man is the same way. Take the dictaphone. Its introduction into city offices had to be preceded by a costly demonstrating education. The traction ditcher was a fine thing, so the farmers said, but only a few hundred have come into Ontario during ten years. When the Ontario Government placed two of these big machines in New Ontario for contract purposes among the farmers, they expected to have only a few jobs and then all the big machines scrapped and the idea abandoned, but the thing has happened that justifies their use. Applications for them have piled up. Instead of six months' work for the ditchers, they are now years on the job and still no end is in sight. Machinery ideas when demonstrated as to its usefulness are quickly absorbed. Just so would be the tractor idea on Ontario farms. Education should be carried on in a big way.

And here is where the governments, who are supposed to lead would have justified the tenancy of their portfolios. Had a general, a man with a genius for directing and organizing, been handed the job, with sufficient funds at his disposal, the whole army of Canadian producers could have been enlisted and mobilized to the one end of greater production. He would have mapped out his field; would have outlined his ways of advance; would have directed energies, now running wild, into efficient channels, and have won the victory sooner. It's a big job. So was the early mobilization of Canada's overseas forces. A big man would do it.

Creelman is taking hold of the Ontario situation with an earnestness and a resourcefulness that will mean much for, which for lack of a better name I may call, long-distance production. He will make the rural wilderness blossom abundantly during the next decade, if his plans do not miscarry. But he is not touching the situation of to-day's requirements beyond its incidentals.

Crerar, of the United Grain Company, of Winnipeg, one of the most successful organizers, a master builder of big business, and a grand marshall of resources, would have been an ideal general for this all-Canada work. Doubtless his first move would have been a commandeering of farm power machinery everywhere and anywhere he could get it. This would be placed in commission at strategic points, where the links in the chain of private production were weakest. Tractors of all descriptions manned by our willing automobile-driving populace, and hauling all kinds of improved soil-stirring implements, would have turned the flanks of this farm labor scarcity and assured a national triumph for the Empire and a starving world. The call for tractors is unmistakable. What few are being used in Ontario demonstrate their usefulness in an emergency on small Eastern farms.

Big men everywhere see the necessity of the move for bigger, better machinery on our farms. Editor Sanders, of the *Breeders' Gazette*, late member of the Taft Tariff Board, says in a recent utterance:

> "Every useful implement of a labor-saving nature should be bought and put to work. Debt is no obstacle, no deterrent in this matter. Wisdom should be exercised, but investment of a judicious character in machinery which will conserve human labor and augment the harvest should be promptly and liberally made, and the money-lender who blocks such progress is an enemy of his country."

The Ontario Government have decided to purchase a few tractors to tickle the job. The War Production Club of the Toronto Board of Trade themselves have put out five tractors in York and Peel counties and have placed them under the provincial supervision. It is a move in the right direction and if jealous meddlers and incompetent red tape can be eliminated by a wise superintending discretion the experiment will amply demonstrate the wisdom of this wider use in preparing fall lands for 1918 crops.

It may not be too late yet to put a general on the job. The war is not won and the world, by no means, assured of enough to eat, for the duration of the war and the establishment of peace. The times demand big men. The people expect their legislative representations to blaze that trail.

MOBILIZE AN AGRICULTURAL ARMY

Since the war still goes on and as the end may be some distance away, while the readjustments of peace will need every attention, it will be a wise move for the government to mobilize agriculture for a big scheme of national production. Such a peaceful army behind the lines would enable the Allies to win out much earlier.

The reclaiming of land, the conservation of forests, the building of national roads and internal waterways, and the tilling of the soil for its fructification, are occupations that would reflect the highest honor upon those engaged in them and hasten to bring the cruel war to an end.

Soldiers for this army should be sworn into Government service for a term equal to that required in military training and service, and they should be made to do their full part, and be ready always for any future Government call for service.

At this time there is such a paucity of labor on our farms that full crops cannot be produced the coming season, and it would be folly to draw from that source to fill the ranks of the Army and Navy without providing substitutes.

New Brunswick Agriculture

A New Deputy From an Ontario Farm Home Believes in the Future of This Rich Province

W. R. REEK, B.S.A., assistant Commissioner of Agriculture in Ontario to Dr. G. C. Creelman, has accepted the post of Deputy Minister of Agriculture for New Brunswick in the new government just formed in that province.

Perhaps no better appointment could be made by the Hon. Mr. Tweedale, the new minister. Mr. Reek is of the manner born. A son of good British stock cradled on the farm in the famous Talbot Settlement near Chatham, Ont., he farmed with his parents until he was 23 years of age, and learned all the details of production, and marketing that a beef, swine and grain grower as well as a Clydesdale breeder could absorb. In fact, it might be said that the ethics of good farming ran in his blood. His father was one of England's champion plowmen and has always been an advocate of the straight furrow, and the good plowman is a singularly straight, sensible man in all farm endeavors. His viewpoints are more liable to be right. Livestock prospers better in his hands. Good seed, deep soils, the laws of cause and effect are understood. And the reflex action of such lines on the community is what counts for much in our agricultural society.

At 23 Mr. Reek went to school and graduated from the O.A.C. in 1910. Here he made so much progress that he was a member of the stock-judging team that went to Chicago. He also specialized in drainage work for three years.

When the late C. C. James, as Deputy Minister of Ontario, wanted a secretary he secured Mr. Reek and later he was selected to go to England as agricultural director of the Ontario Government in London.

After a successful work in organizing the work there he was called back to become assistant to Prof. Geo. E. Day in

W. R. Reek, B.S.A. N.B. Deputy Minister of Agriculture.

Livestock Husbandry at Guelph. His experience here can be estimated from his associations with the biggest livestock man in Canada.

Two years ago Prince Edward Island wanted a director of agricultural instruction and made a tempting offer to him, which he has held to the benefit of both himself and that progressive little island province until two months ago, when Dr. Creelman, being appointed Commissioner of Agriculture for Ontario upon the death of Hon. Jas. Duff, sought for a secretary and assistant, Mr. Reek was his first choice. Two months ago he came back to his own province, only to find New Brunswick making a bid for his services.

The call back to the Maritime carried in it a chance to do useful services in a place that has profoundly attracted him. Such great opportunities for development of agriculture have been impressed upon him by his associations there during the past few years that he decided to risk another move.

The FARMER'S MAGAZINE has long been impressed with the wonderful possibilities of the rich lands of New Brunswick. Frequently articles calling attention to the big St. John Valley and other sections have appeared in our pages. New Brunswick is rich in farm opportunities, whereby the young man can develop as big a success and enthuse just as greatly as in any part of our rich Dominion. Mr. Reek, as a young man, a born farmer, a capable organizer, and a resourceful student, will carry to his chosen field a momentum that will mean much for the rich lands down by the Maine coasts.

A Goodly Land

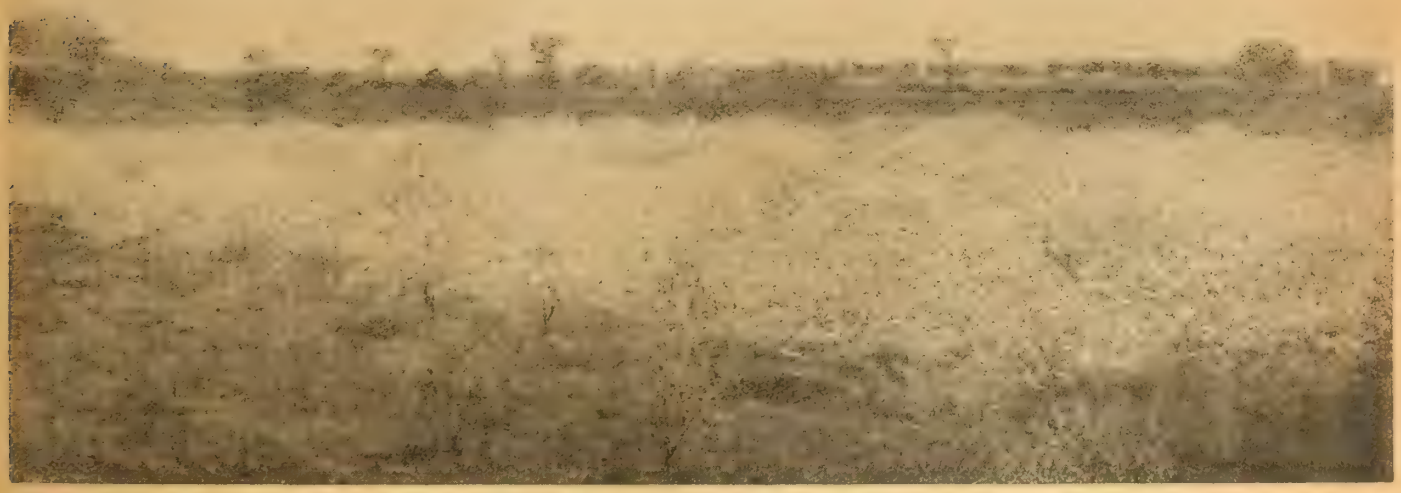
A country that has the conditions for the production of animals and animal products successfully can count itself blessed. Such is New Brunswick.

(1) It is well watered.

(2) It has the soil and the climate for the growing of summer and winter foods in abundance.

(3) It is favorably situated as to markets, both home and export.

A number of years ago, when the possibilities in agriculture were not nearly what they are to-day, one of the greatest English experts was asked to investigate and report upon the possibilities of New Brunswick along agricultural lines. In his report he tells us that the province has about 18,000,000 acres of land, of which 13,000,000 acres are arable; that it is capable of keeping 450,000 horses, or about seven times the number now kept; 1,800,000 cattle, or about seven times the present number; and 3,750,000 sheep and swine, or about sixteen times the number at present in the province; and that under this higher form of farming it is capable of caring for a population of over four million people, which is about twelve times our present population, or considerably more than half the present population of all Canada.—J. W. Mitchell.



—Photo by W. A. Walsh.

The possibilities of New Brunswick are great. Perhaps no greater idea of the productivity of this soil can be gathered than by a look at a picture like this, which shows a partial view of J. W. Clark's orchard at Mangerville, N.B. Such a land ought to be the home of thousands more of contented farmers.

A Colonial Farm House: By GENEVIEVE

A White House With Green Shutters, an Outside Chimney and Pillared Square Porch

MANY a bare, unattractive house could be turned into a dignified old colonial by a very little remodelling. The house shown here might have been any one of a thousand of the square, straight-roofed farm houses built thirty or forty years ago, and since made individual and more inviting by putting a little square porch with heavy columns over the front door, and running a brick chimney up the outside. Having the upstair windows in twos and threes gives a cheerful air to the place, and with the white painted walls and green shutters goes to make a pleasing combination of trimness and quaintness.

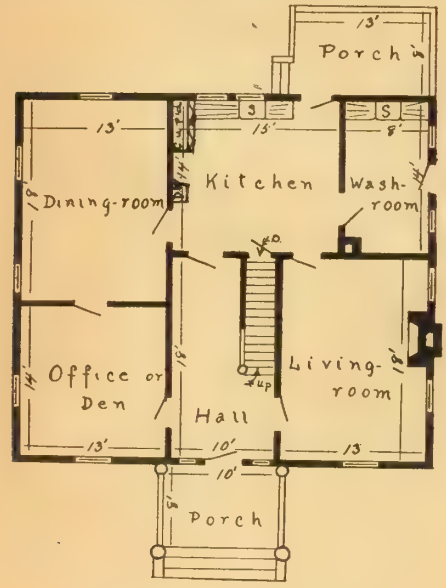
There is nothing very unusual about the layout of the interior. A hall ten feet wide runs back from the front door and opens into the kitchen. On one side of the hall is the living room; on the other the office or den. The living-room is large and well-lighted and has a fire-place. A good-sized living-room is especially desirable in a house where there are young people with little crowds of friends to entertain at home. An open fire is one of the lasting charms of any home. Having the living-room opening directly from the kitchen insures its being used more by the whole family than if it were more isolated, as the kitchen in a farm house is naturally the main rendezvous.

The office or den is being recognized more and more as indispensable. Besides being an office in a business-way, a room fitted with a writing-desk and some special place for filing away papers and documents, it makes an extra little sitting room opening from the dining-room. In a house where it is desired to have a bedroom downstairs, this might be used as a bedroom without changing the plan.

The working part of the house is planned to make things especially convenient for the housekeeper. The kitchen opens directly into the dining-room, with a washroom at the other side. With this arrangement it is not considered necessary to have a pantry. The washroom with a sink of its own leaves the kitchen sink entirely free for culinary work, and the built-in cupboard and dumb-waiter take care of supplies very well. A kitchen cabinet would be a valuable help.

A comfortable eight-room home, size 37 ft. by 32 ft. 6 in.

The simple, roomy construction of the house without troublesome corners under the eaves, makes it easy to get a good arrangement of rooms. The walls follow rather closely the lines of those on the floor below, a feature generally appreciated by builders. It will be noticed that the plan makes no provision for lighting the hall. This can be overcome by putting a large panel of frosted glass in the door of the sewing-room, although this door will usually be left open letting in all the light necessary. The layout of this floor is so simple that the drawing explains itself.



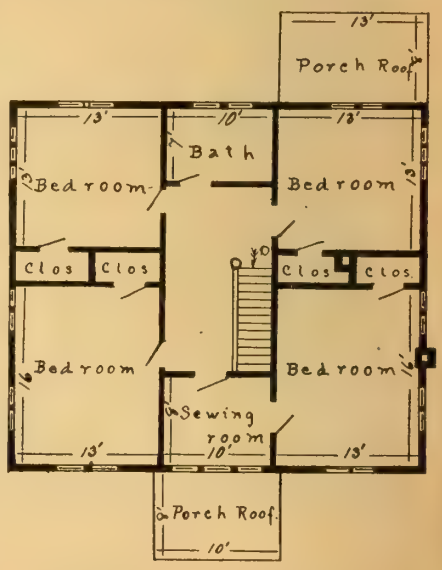
The plan of the ground floor.

Bacteria and Milk

As milk is one of the most important foodstuffs, especially for children, it is very important that every housewife should understand something of the effect of bacteria on it. Every one knows that milk contains a certain number of bacteria. Some of the germs are in the udder itself, but most of them get into milk after it is drawn. Dirty cows, dirty barns and stables, dirty hands and clothes of the milker, and dirty utensils all contribute to increase the number of germs in milk. If the milk is not properly cooled and kept cold, bacteria multiply and produce many changes in it which often trouble nurse and cook.

The most common of the difficulties encountered in caring for milk is the simple souring, or lactic-acid fermentation. In addition to this well-known process, there are a number of other and more troublesome changes, such as the appearing of bitter milk, slimy milk, and tainted milk.

The lactic fermentation, or common "souring," of milk is brought about by a number of species of bacteria. Formerly it was supposed that a single species produced this change, which consists in the splitting of the milk-sugar molecule into carbon dioxid and lactic acid. It is now known, however, that in the process of splitting up the milk-sugar other by-products are produced. In many cases the deleterious substances are often produced before the quantity of acid is sufficient to cause curdling. In fact, the by-products themselves may become harmful while the milk is still considered sweet and wholesome.



The plan of the second floor.

The Tractor to Our Aid: By THE EDITOR

Some Reasons Why Production Lags Behind in Big, Fertile Canada

THE mobilizing of farm machinery to the service of the war production campaign, has been disappointingly slow. It has been taken for granted by the majority of people that foodstuffs would not fail, that no attention has been paid to agricultural efficiency. With the call for shells, every machine shop on the continent was speeded up on the rush orders for the turning out of engines, drills, lathes, etc., to enable labor to produce shells at the maximum rate. Not so, in the case of farm produce. Even the factories that were engaged in farm implement manufacture were turned into shell foundries, and the people of the world are waking up to the real menace from the commissariat shortages.

Labor, also, has been diverted from the farms. The best drivers of artillery and cavalry come from the ranks of men who can handle horses. And this means from agriculture. Consequently, unless more power took the place of this draft, it is quite logical to expect a diminished production. And such is the case. Ontario alone will fall behind by over 350,000 acres last year. The continent shows a bigger stress this season. The labor shortage is going to be read in the decreased production totals unless the one man on the 100-acres who is left, can double his efficiency by a machine. That machine is the gasoline tractor drawing the large and model cultural and harvesting implements.

Who is to blame? There is contributory negligence at many points. Let us examine a few. Firstly, the leaders of the people, in the parliament ought to be indicted. These men are sent to these halls to be foresighted, to see the cloud on the horizon and prepare for the deluge. Leaving the settlement of this question to an aggregation of individuals, no matter how competent, gets us nowhere. A big directing genius of the caliber of a big business undertaker, is within the possibility. This appointment lay with this government. They function through him at their best.

Again, the implement manufacturers carry considerable culpability. They have neglected the education of farmers to the benefits and economy of their machines. They have done little to bring about demonstrations. Rather would they sit tight present the competition of plowing matches, neighborhood awakening and increased farm interest in machinery, and wait to get the plum of prices wthout the giving of real service. Business men need a big campaign of advertising education to accept a new machine. Much more so does the conservative farmer or co-operative groups of farmers. The implement manufacturer has failed to be as patriotic as he should be.

He is to blame for not having the bigger vision, for neglecting to assert his case more loudly, for lack of organization to become effective, and for his slowness in getting big machinery and power to work for him. But his case is the least censurable of all. His financial margins run too close to the bread line, his investments are too easily rendered null and void by the forces of distribution. And we must in all fairness, give him credit with the patriotism that howls not when everyone else enters his own field and when every agency is bent on increasing a supply that means lower returns for him. The honest man must be honest in the matter or keep his light (?) under a bushel.

The tractor can plow straight. One of the new tractors in Ontario plowed 28 acres in one day while the farmer seeded it the same day.

But prices are good now. The incentives to production are greater than in any decade of our memory. Could we, as farmers, cash in on this now, there would be some real justice in the matter.

That is why the tractor proposition, as suggested by me in a letter to the Toronto dailies of recent date, was made. And although their effectiveness in this year's production may be argued away, in part, it is quite possible to increase our buckwheat, potato, corn, and coming fall wheat crop in a big measure. That in itself is worth while. Let us look at some tractor facts in the U.S. and in Europe.

TRACTORS ON UNITED STATES FARMS.

To secure data as to the number of gasoline and kerosene tractors to be in actual use on farms during the coming season, the Office of Farm Management, in co-operation with the Bureau of Crop Estimates, U.S. Department of Agriculture, addressed, in February, 1917, inquiries to 32,000 selected correspondents. They were asked to report all tractors which were actually to be used in farm operations this season. Steam-driven tractors, tractors purchased but not delivered, tractors out of commission or not to be used this season, and tractors employed for road or work other than farming were to be excluded.

The figures given below indicate the number of tractors the actual ownership of which was clearly established and the intention to use which during the season, was implied. Mere estimates as to the probable number of tractors in any county were disregarded. The figures, therefore, are offered *not as an actual couunt of all tractors* but as indicating the relative employment of tractors in farming in the different sections.

These in their respective states are as follows:

Alabama	313	Nevada	19
Arizona	23	N. Hampshire	23
Arkansas	336	New Jersey	107
California	1,358	New Mexico	83
Colorado	525	New York	1,210
Connecticut	47	N. Carolina	452
Delaware	34	N. Dakota	2,137
Florida	71	Ohio	1,305
Georgia	543	Oklahoma	795
Idaho	262	Oregon	318
Illinois	3,202	Pennsylvania	595
Indiana	1,852	Rhode Id.	30
Iowa	2,223	So. Carolina	387
Kansas	2,287	So. Dakota	1,527
Kentucky	347	Tennessee	442
Louisana	343	Texas	2,235
Maine	53	Utah	88
Maryland	190	Vermont	75
Massachusetts	91	Virginia	434
Michigan	945	Washington	209
Minnesota	1,575	W. Virginia	90
Mississippi	377	Wisconsin	904
Missouri	1,141	Wyoming	186
Montana	808		
Nebraska	1,773	Total	34,371

It will be noted that the States most similar to Eastern Canada conditions are Delaware, Maine, Maryland, Massachusetts, Michigan, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Vermont, Washington and West Virginia. These States are operating 4074 tractors. And this is done before war conditions become so

Continued on page 15.

—*Photo by E. J. Hall.*

Loading and harvesting hay with a tractor on an Illinois farm.

The Efficiency of Gasoline

This Vancouver Island scene looks like good farm business methods in field and road.

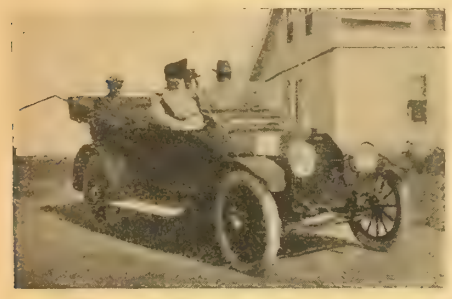
Over Production Not Possible

POWER is rapidly displacing hand and horse labor on the farm, and the use of machinery will continue to increase. These words were written by F. C. Coburn in his Cyclopedia for Farmers under peace conditions. Decidedly more appropriate would these remarks be during these war days when the question of production is forcing consideration from all parts of our urban populations. For assuredly it is of urban solicitude first and foremost. The farmer's interest follows only as he is able to increase his returns thereby, by having larger markets for his produce.

And no one can call the farmer unpatriotic and selfish for taking this view. It is the way of business, and business men, everywhere, far oftener than the tiller of the soil, ask the question of what is there in it for me?

Thus from the standpoint of farmers' increased profits and from the urgency of consumer's anxiety, the part that gasoline plays in this question is not a small one.

Engines are now being used to pump water for the home and the stock, and to supply water for irrigation. They operate creameries and butter factories, feed-cutters, grinders, threshing machines, wood sawers, mowing and reaping machines, electric lighting plants, and the plow. The application of the principle of the internal combustion engine, has enabled a very powerful engine to be stocked in a very compact place. Thus we have the automobile, the motor used for pleasure or curiosity are gradually being absorbed into the business life of the community and made to play their part in the political economy of the people.



A Saskatchewan wheat farmer who is now finishing 1200 acres of grain seeding and knows the value of power.

The progressive curve of man's needs requires a parallel curve of production. And unless man power can keep pace with the acceleration, machinery must come to man's aid, or he will perish from starvation or, strangled in his desires, descend to the level of his savage forebears.

In this speeding up of production, gasoline has entered with a very beneficent purpose. War has withdrawn our man power and our wealth. The big part of humanity is engaged in a gigantic economic waste, not only of the staple products of soil and labor, but of the very gifts of nature, such as oil and coal, which are the necessaries attendant on greater production. Thus we see gasoline prices going up from 13 cents to 33 cents and the curtailment of farm machinery production being made almost to the point of danger.

Economic laws will have to be suspended by community restraints, such as fixed prices and directed labor, if the war continues to interfere with production as it is doing. The *Scientific American* remarks in a recent issue on this aspect of the case in England when it says that the scarcity of food in England has impressed upon her people the necessity for obtaining a greater product from her available farm lands, and the conclusion has been arrived at that the most powerful agent for attaining this end is the farm tractor, and intense interest is consequently being shown in this class of machinery. As America has done more toward the development of this class of machinery than any other country its tractors have secured great prominence before the British public, and there is a most valuable field open to any of onr manufacturers who will supply power farm machinery of sound design and construction.

The same thing is happening in Canada and the United States now as happened during the American Civil War. Machinery was taken by the farmers at an unprecedented rate. Wise farmers now will see the trend of events. Food stuffs are scarce, labor is misdirected. Things will not right themselves quickly. Overproduction cannot possibly result for some time. Now is the time to get gasoline to work on our problems.

F. C. MACKENZIE.

Farm Tractor Sense

Farmers who are going to buy farm tractors, and tie up money, will do well to use the common sense as given by this good Quaker, who writes to A Friend in a recent issue. He says:

What make of tractor shall I buy? Will it be a three or four-wheel, a one, two or four cylinder; should it use gasoline or kerosene? These are technical questions on which experts differ. My advice is to buy a tractor made by a reliable firm well established in business. An agency should be near enough to supply repairs promptly. A field demonstration is an interesting spectacle, but not a test to buy on. Learn all you can about the machine you are interested in from someone who has used one of them at least one season. Above all, do not take the agent's word, unsupported by evidence, for what a certain tractor will do, or what it will cost to run it.

Even if the best judgment has been used in selecting the make and size of a tractor, the success of its operation will depend largely on the kind of care it receives, and on the judgment, patience and ingenuity of the man who operates it.

Owing to the constant heavy duty, a tractor needs oil and grease applied

A Ladysmith, B.C, use of a light Ford car and trailer in hauling baled hay.

A Saskatchewan farmer hitches his car to the wheat wagons.

oftener than an automobile does. Some parts require such applications every five hours or oftener. Only oil best adapted to the machine should be used. With tractors using kerosene oil, in which the combustion chamber reaches a very much higher temperature than when gasoline is used, it is necessary to use a special cylinder oil of high fire test. When kerosene is used for fuel the water is heated and evaporated more rapidly than with gasoline, and should be closely watched to prevent it from becoming too low for efficient cooling. Plenty of the right kind of oil and grease, applied often, with care to exclude dirt and grit, is most important.

Do not overload your tractor. Overloading is probably the most frequent cause of premature wear. Experts sent to demonstrate tractors are often guilty equally with the farmers of this serious fault. They want to make their machines show up well. It is a temptation to a farmer who is pleased with his new power plant, to push it to its limit, in order to gratify his sense of superiority over team work. The man who practises the fault of overloading, will be the first to throw his machine in the fence corner, and condemn it and all who created it.

Just what overloading consists in should be judged by the operator, following the directions of the manufacturers, and by careful observation. It would be much wiser to do a little less than the manufacturers claim, rather than more.

When a tractor gets in a tight pinch, it cannot exert the comparative power that horses can under a few moments' strain. For this reason a tractor will reach its limit sooner than a horse, although both will show bad effects from continued overstrain. The tractor, therefore, has a load limit which is less elastic than that of the horse.

A well-designed tractor will get enough traction on firm ground to pull the normal load. The slipping of the drive wheels is a factor of safety which helps to prevent overloading. The extension rims and lugs are added to maintain normal traction on soft or sandy ground. When they are used on firm ground, great care must be taken to prevent overloading. The wheels cannot then slip so easily to relieve excessive strain. Driving with the extra lugs on is something like running a boiler with the safety valve tied down. The slowing down of the engine will then indicate overloading.

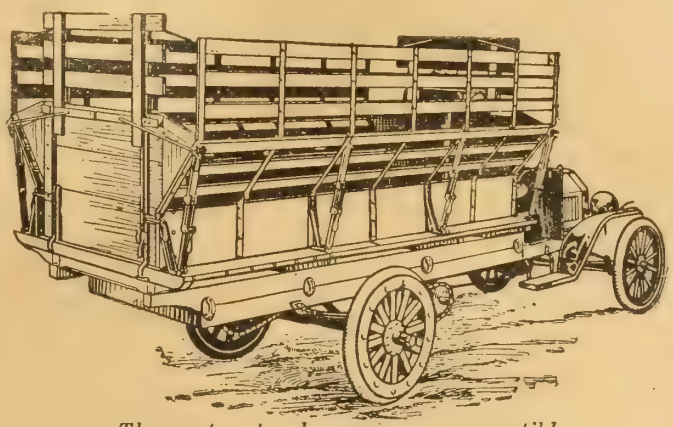
Ten years from now we will doubtless look back on the present tractor as a crude affair. And yet we must admit in fairness to the makers, that those now on the market are a result of a number of years of experiment and trial, and they are proving to be practical and efficient. The tractors have reached a stage where they are serviceable and reasonably economical under careful and intelligent operation, and greater perfection will naturally come with increasing use.

HIRAM HAINES.

The Motor Truck Coming In.

Motor trucks are being made in Canada at prices low enough to tempt farmers into using these implements for their road hauling and field work. The experimental work has been carried on for some time and many are now in commercial use. Creamery men have been using them for the collection of cream for several months now. Truck farmers find them very serviceable in gathering their products and in taking it to a quick market. Big farmers are using them in some instances in their farm work, and this feature of the business is likely to develop more and more. The way the automobile has invaded the farm shows that farmers will buy just as soon as they are convinced that they are feasible. The great work of education, as to this service, is one of the duties of the manufacturer. What What will your motor wagons do? Establish your claims under test and at every place where farmers gather together, and your trade will grow all too fast for your capacity to handle.

ELUID KESTER.



The motor truck carries a convertible rack which can be used for a hay rack, stock rack, or box.

Gasoline the Remedy

The tractor plow is but a symbol. The soul of the machine is the gasoline engine, and an engine that can haul a plow can operate almost every other farm implement. It can do more than this, it can take the backache out of the farming, and make obsolete the phrase "a horny-handed son of toil." A son of toil who uses gasoline will be no more horny-handed than a son of a gun. The farmer will then be able to appreciate his other natural advantages. He is not subject to regulation. Unions do not worry him. He can work as many hours a day as he pleases. He can charge all the market will stand, in full assurance that the Government will not put a tax on him like a race track or a munition manufacturer. In the ten years between 1900 and 1910, the railways of the United States doubled their ton miles, by practising similar economies, made possible by gasoline or kerosene, the farmer may do the same. In short, it would appear to be the proper thing for farmers to supply themselves with tractors as soon as possible.

In an article entitled "Time and Tractors, the Essence of the Food Problem," in the New York *Times*, Edward A. Bradford discusses some phases of farming which are problems in Canada as well as in the United States. Mr. Bradford takes the ground that the war has had but a secondary effect upon agriculture, and that if the world is threatened with famine it is not on account of the war. His proofs, being derived from the United States alone, are not altogether conclusive, but it is nevertheless astonishing to learn that in the two years before the war began the United States was consuming more food than it produced. In two years of the war the United States produced more food than it consumed and exported 76 per cent. more. He says that the New York food riots and other evidences of a food shortage were not caused by a failure of the crops, but by the presence in American markets of foreign Governments buying for their armies. These purchasers were using capital rather than income to supply their wants.

A cornbelt farmer with a motor truck hauling corn. Its uses are manifold.

Money From the Milk Can

How Fred Carr Started in Under Difficulties and Became Independent

By G. H. DACY

FRED CARR bought cheap, unimproved land which was eight miles off the railroad. He paid $40 per acre for one hundred acres of this land, borrowing enough money to pay for the land and to equip and stock the place which meant that annually he had to pay $450 interest money as well as $1,000 towards the principal. Now right at the start this farmer had to mind his P's and Q's mighty closely in order to save up $1,450 net per year in addition to paying the living expenses of his family. He was a thoroughly experienced farmer and had two well-grown boys to help him in his fight for a home and farm.

Naturally Carr had to devise some system of farming that would minimize hauling to market due to his inaccessibility to the railroad. In self defense he had to practise some form of dairying in order to have a regular and dependable income. He bought up twelve good native cows which would produce about six thousand pounds of milk per year and he decided to ship cream which would be paid for on the butter fat basis in a city about fifty miles from the farm. As this cream was used only in the manufacture of butter it did not have to come from a sanitary stable, so that Carr was not obliged to undergo any additional expense in fitting his barn for the dairy business. He could ship either sour or sweet cream two or three times a week as he desired, the former product bringing about four cents per pound of butter fat less than the sweet product.

USED SKIM-MILK WELL.

Carr used his skim-milk in the production of pork and veal. He bought six good grade brood sows and a registered Berkshire boar. He grew the pigs through the dams until the porkers were eight weeks old at which time they would weigh about thirty-five pounds apiece, when

There are many cases where young men have made good in Canada under just such difficulties as this man had to contend with. We would be glad to have the story. Why not send us the facts of it now?

—EDITOR.

Carr sold them for $7.50 per pair. He advertised in several good farming papers and readily built up a good business in marketing pigs, especially with people who desired only three or four pigs a year, which they could fatten and butcher for the home pork barrel. Carr was in a region where lumber was cheap, so that he was able to build a simple A-shaped portable hog house eight feet square (floor dimensions) for $8, the roof of the house being covered with waterproof roofing paper. Such a house would commodiously accommodate one sow and her litter or a dozen shoats. As far as possible Carr used home-grown feeds in his hog ration, purchasing only bran and occasionally a little digester tankage.

At a cost of $7.50 he purchased a combination hand and power grinding mill which would convert small grain and corn into a fine meal. At first he had to do the grinding by hand, but as soon as his finances permitted he bought a one and one-half horsepower gasoline engine. In the passing it is worthy of mention that he more than paid for this engine the first year in doing public grinding for his neighbors even though the capacity of his machine was low, being six to seven bushels per hour.

SOLD MANY YOUNG PIGS.

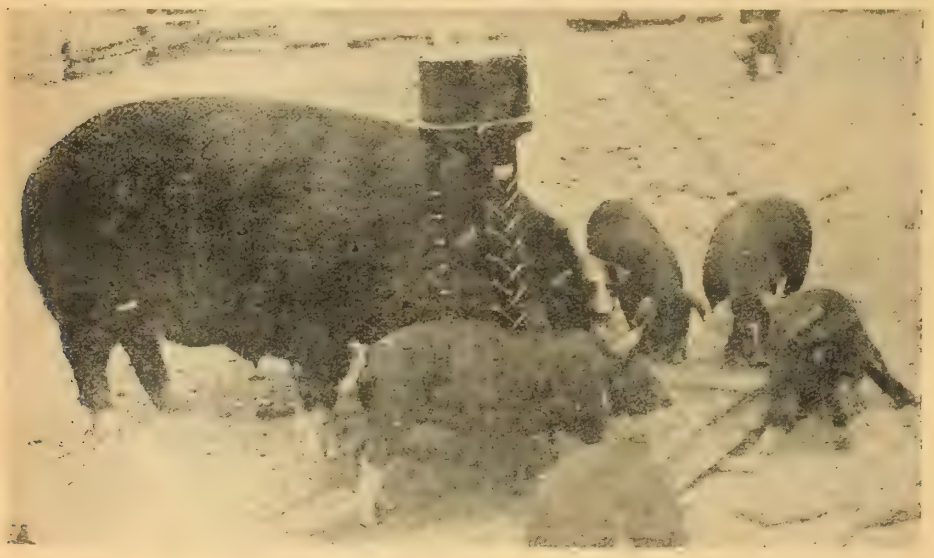
Carr found the demand for pigs was particularly keen during the early spring months and in the late fall so that he bred his sows to farrow twice a year, respectively about these times so that he would have plenty of pigs to offer. He kept records of all his business transactions and tried to please each customer so that the buyer would make further purchases. One advertisement which cost $2 resulted in the direct sale of $300 worth of pigs. One customer bought ten pigs in the spring and the animals turned out so well that in September this same buyer purchased twenty-four more pigs. Such sales paid well. Carr required the buyers to send personal cheques or money orders in advance and he always shipped the pigs in crates by express at the expense of the purchaser. He guaranteed his pigs to be as represented. He established a reputation for honest dealing and the production of quality goods at farmer's prices.

During the summer Carr ran his hogs on pasture crops. He sowed winter rye and vetch early in the fall so that it would afford some fall grazing as well as early spring grazing. As soon as the ground was in shape for planting operations in the spring he would sow several patches of rape and oats and Canadian field peas at six-week intervals so that as soon as one patch was grazed fairly close the other plot would be in shape for the porkers. He would plow and prepare the plots after the rye and vetch were exhausted and sow them to rape or soy beans which would supply excellent mid-summer and fall pasturage. In addition he would always have about ten or fifteen acres of alfalfa, red clover or sweet clover for hay and seed purposes, these materials being used in the winter rations of the porkers. It is surprising how much clover a hog will eat in the winter time.

As Carr's operations expanded he bought more sows, including a few pure-bred Berkshires, so that ultimately he worked into the business of producing pure-bred, registered pigs for breeding purposes. He still kept his grade sows and used their progeny for the production of pork. Later on by the practice of judicious advertising in the newspapers in the neighboring city, Carr built up a special cash trade in sausage meat, hams and bacon as well as dressed poultry and eggs. With the assistance of his wife and two boys he butchered his fat hogs and converted the meat into toothsome foods which particularly attracted the city consumers. Carr insisted on a cash business in the sale of his pork products. The buyer had to send a cheque in advance and Carr would guarantee to send to him his money's worth of quality goods. Carr also arranged with a leading city grocer to retail his surplus pork products, and with these two healthy market avenues he was always assured of disposing of all of his goods. He shipped the eggs, poultry and meats by parcel post and express in neat trade-marked packages.

GOOD CREAM PRICES.

Carr received an average of from 27c. to 30c. per pound for butterfat from sour cream and from 31c. to 34c. per pound for the fat in sweet cream. His cows produced between $75 and $100 worth of fat per animal per year in addition to $10 to $15 worth of skim-milk. On the average, he said, it cost him about $65 per year to keep a cow. He kept the best heifer calves and raised them, as one of his first purchases when he ascertained that he would make a go of the dairy business was a registered Guernsey bull. Gradu-



Even pigs like machinery to assist them. A patent oiler which pigs use and keep free from vermine.

FROST ORNAMENTAL FENCES

Present A Good Front

Angle Iron and Woven Wire

NEAT LOOKING **PRICES REASONABLE**

Woven Wire Lawn Fences

(Made in Three Styles—Standard Heights.)

Perfectly Woven Fabric—Only Automatic Loom in Canada

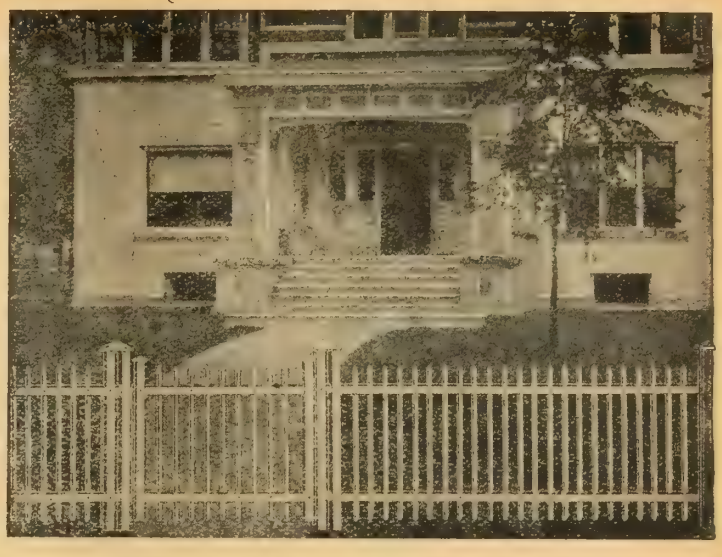
The illustration below is Style "S." There is also Style "L," with the shorter bowed stays omitted, and Style "LP," with stays close all the way to the top.

FROST WOVEN WIRE LAWN FENCES can be built on iron posts with pipe top rail or on wooden posts with scantling at top. We use heavily-galvanized material, as the painted fence soon shows cracks and peelings; rust soon follows. The wire in these fences, like all our material, is drawn and galvanized in our own mills, so we know its quality.

Standard heights: 3, 3½ and 4 feet. Bowed tops are even. The uprights of No. 9 are deeply crimped and securely held in place by a reverse twist of the two No. 13 twisted lateral wires. To prevent the bottom of fence from becoming loose or "pulled out" the uprights are alternately crimped one way, then the other.

Gates are made to match any style or height of iron or woven wire lawn fence.

Flower border, heights 16 inches and 22 inches, same construction as Style "L."



Made from Angles---

Strength and Lightness Combined

Being constructed from angles, the fence is light, but stronger than round or square bars of ½-inch or ¾-inch thickness. Quite massive in appearance, but much lower in cost than the ordinary types of iron fences, on account of its lesser weight. FROST ANGLE PICKET FENCE is durable and neat.

MATERIAL IN DETAIL: Horizontal rails, 2-inch angles, ⅛-inch thick. Pickets, ¾-inch angles, ⅛-inch thick, fastened to horizontals through a "V" slot and securely rivetted. Fence is practically rigid. Six-inch square posts at ends and gates. These 6-inch posts are made from four of the 2-inch horizontals fastened 2 inches apart by 2-inch steel plates, top and bottom, strongly rivetted. Line posts are made of two horizontals fastened closely, making a 2-inch square post. The made-up panels, 8 feet long, are tightly bolted to line and end posts.

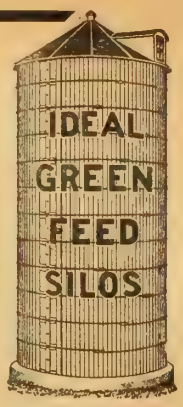
Send in a rough sketch of any property you contemplate fencing, and we shall be glad to give you an estimate of the cost of whatever style you prefer. We have reliable agents in almost every district.

Get a catalogue with detailed information.

Frost Steel & Wire Co., Ltd.

Hamilton, - Canada

An IDEAL costs nothing because it quickly pays for itself



Made in Canada

PROBABLY you intend to put up a silo some day. Why not do it right now?

A silo is not a luxury—something to be saved up for or bought only when you have surplus cash. In fact, the less cash you have to spare, the more you need a good silo. An IDEAL Green Feed Silo full of rich, juicy silage will cut such a slice off your winter feed bill and increase the milk flow from your cows to such an extent that even if you had to borrow the money it would pay you to put one up rather than to wait another year.

The longer you try to get along without a silo the longer you continue to sacrifice the profit you might have.

A prominent dairy authority says that even if a farmer had to buy a new silo every year he would still find it profitable. When you consider that the average life of an IDEAL Green Feed Silo is from fifteen to twenty years, that it pays for itself the first year and that each year thereafter it returns to its owner a profit equal to its entire first cost, you can appreciate how important a part of the farm equipment it is.

Look into this silo question now, and prepare to make bigger profits from your cows next winter.

Write to-day for our large illustrated silo catalogue, which shows you every detail of the IDEAL and explains just why you get more for your money in it than in any other silo.

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50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

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ally as his dairy income increased Carr substituted Guernsey cows for his native animals. His income proportionately increased consequent on a larger flow of richer milk so that at present he is slowly working into the purebred Guernsey business.

To raise the bulk of his feed is Carr's ambition. He buys only bran. He feeds ensilage and occasionally he fills one of his two silos with a mixed ensilage composed of one part of cowpeas and alfalfa third crop, to four parts of corn. This succulent feed is rich in protein and its use in the ration permits of lessening the amount of protein which ordinarily has to be supplied in the grain. Carr feeds plenty of clover and alfalfa hay. By the annual production of these leguminous crops he is also markedly improving the fertility of his land.

At present he has ten acres of promising alfalfa, while he yearly harvests about fifteen acres of clover hay. Carr feeds ensilage the year round, and if his silage gets short he feeds clover as soiling crops in addition to green corn in case the hay crops are not up to the average on account of a dry season. This practical dairyman praises cowpea and soy bean meal for use in the dairy ration.

Carr used to make two trips to town each week, at which time he would haul all of his produce to the railroad, although at times it took two large wagons to handle the goods. Now he makes three trips a week. He always notifies purchasers in advance at what time he will ship goods to them so that they may be on the look out. After patient effort Carr has developed co-operation in the way of road improvement work among his neighbors so that to-day he travels a good gravelled road when he goes to town. He has also been the prime mover in improving social conditions in his neighborhood. Now at least twice a month the local schoolhouse is used for farmer's meeting, on which evenings the farmers and their families gather at the school house and listen to agricultural lectures illustrated by lantern pictures or else debates on local farming and marketing problems are held or spelling bees or social entertainments are pulled off.

SUCCESS IS CONTAGIOUS.

The success of Carr has exerted a stimulating effect on the countryside. Other farmers are pinning their faith to the milk can and they are seeking private outlets for their farm produce. They are beginning to realize that the A-grade farmer should be associated with A-grade live stock on A-grade land. And many of them are practising soil improvement in a practical way so that the chances are that the B and C-grades of land on which they now live will ultimately develop into farming land of top value consequent on the intensive work of progressive livestock farmers.

To-day Carr rides in his own automobile which has been paid for. He makes full use of the bank, where he meets with a flattering reception because of his prosperity and honest methods. He has a farm which $150 per acre would not buy. He maintains Guernseys and Berkshires which usually take the majority of the blue ribbons at the county fair. He has two contented grown boys at home who intend to stick on the farm. His home is equipped with all the modern conveniences, including systems of water, light,

heat and sewage disposal. His barns are modern and model. His equipment is complete and up-to-date. Wherever he can he uses gasoline power in place of horsepower, while he always aims to substitute horse power for man power whenever it is possible. Carr is a farmer of the twentieth century worthy of imitation. He is the type of countryman who constructs a monument of achievement during his lifetime which will be a source of inspiration for his successors.

The Tractor to Our Aid

Continued from page 9.

urgent. It looks as if the Yankee farmer regarded it as a business proposition.

TRACTORS IN ENGLAND.

A recent letter from London, Eng., said that in the House of Lords Lord Dartmoor, asked what steps had been taken to supply motor ploughs to farmers. The Duke of Marlborough said the Government had in use 100 motor tractors from America, fifty caterpillar tractors which were to go to Russia, but of which we had been permitted to use for a few weeks, and 430 motor tractors lent to the department by private owners. These 580 tractors were capable of ploughing 3,000 acres of land a day. Reports showed there was ample labor to man and repair them.

FARMER APPROVES.

To the Editor of The Daily Star:

Just a word of approval of the proposition put forward by F. M. Chapman, Editor of The FARMER'S MAGAZINE, in the *Globe*. The gain from such a course if adopted promptly and put into effect with whole hearted energetic endeavor would do a great deal to assist the production campaign along agricultural lines and it might also prove to be a practical method which by co-operative action could be utilized to help the farm labor problem of our Province in coming years. The extent of land that could be brought under cultivation this season by the available farm tractors would add a very considerable quantity to our grain and feed crops and would relieve much labor for other work. Much summer fallowing could be done and land brought into shape for wheat sowing next September, which otherwise cannot possibly be worked.

HENRY MOYLE.

Richmond Hill, April 10.

BOARD OF TRADE BUYS TRACTOR.

J. W. Woods announced at a recent meeting of the War Production Club, at which the Editor of the Farmer's Magazine was present, that the Toronto Board of Trade had purchased five tractors equipped with plowing attachments, and intended putting them to work immediately to increase the acreage put under food crops this Spring. They are sending a representative up Yonge Street to-day to make a survey of farms within a radius of 30 miles of the city, where these immense tractors may best be used. He appealed especially to those delegates who came from farming communities to emulate Toronto's example and to press every available unit of motive and man-power into the production of foodstuffs, and give instances of economic waste in agricultural practices throughout the province which must be eliminated if the province is to bear its proper share in the responsibility of feeding the armies of the allies in the field.

MR. BAILEY IN CHARGE.

Mr. C. C. Bailey, Assistant Deputy Minister of Agriculture, has this week begun the work of placing tractors in Carleton, Halton, Norfolk, Welland, Wentworth, Essex, Kent and Simcoe counties. He has, by request of the War Production Club, taken over the whole tractor end of the work, including the handling of the five tractors already bought by the club. The idea of using tractors was taken up rather late in the day to be of very great assistance in increasing the area of ordinary spring seeding, but what is being done now will afford a demonstration of the capacities of this new farm machine, and will prepare the way for much more extended usefulness next fall.

Because of the difference in soil conditions, and the greater difference between broken and level land, we could not very well fix the payment for tractor service on an acre basis, said Mr. Bailey. We have therefore, decided on charging by the hour for services rendered. For every hour a departmental tractor is actually at work on the land, the farmer whose land is being cultivated will be expected to pay 35 cents, plus the cost of fuel used. The department will bear the loss when the tractor is idle owing to unfavorable weather or other causes, and will also meet the cost of moving from place to place.

MORE PRODUCTION BY MEANS OF TRACTORS.

To the Editor of the *Mail and Empire*.

Sir,—Government activity in the Matter of greater production in Canada this year is attracting general attention. The co-operation of the business interests with the farmers is much to be desired, and while there will be many disappointments on both sides much good can come out of it.

But there is another way, it seems to me, that more satisfactory results could be secured if volume of production is the object. It does seem incongruous to see some enthusiastic souls laboring away on a poor city back yard, with a few potatoes or beans, when whole farms adjacent to our towns and cities are lying idle, and many more fields in every township that are remaining in grass lands; all for the want of labor and machinery.

The factories of the United States have been busy for the past year turning out farm tractors of the light type for use on the farms of Great Britain and France. These are being pressed into service night and day. To show how big this business has been, one has only to read that over 70 tractors went down in one torpedoed vessel en route to Europe this winter.

Now, if the old farms of Europe can become productive by the use of tractors, why would it not be equally patriotic for the Government of Ontario to try it out here?

By rounding up the various manufacturers' supplies, and by using those tractors already owned by farmers on Ontario farms, a sufficient number could be secured. Start these out with two capable men to the townships where labor is scarcest and where conditions for their operation are suitable. Run them day and night shifts. Allow the farmers to engage the services of these machines at a reasonable rate. These tractors can do as much as half a dozen teams and carry a harrow at the same time. The farmer himself can easily get the seed-drill into commission. Seed difficulties could be financed through the District Representatives and our many co-operative societies as they are doing it in France. Many unproductive areas could thus be brought into use this season. Those tractors already owned by farmers could be operated day and night for the owner first and then on other farms under Government management either by purchase or compensation.

There are hundreds of acres of grass lands lying near our towns and cities. There is no farmer on 100 acres or more, who is not allowing some portion of his farm to lie in grass that would be under cultivation if labor were to be had. By the use of 500 tractors scattered over Ontario fully 50 000 acres of this land could be put under crop during the season. This would add a greater total of extra cereal production this year than by any other means.

Added to that, the tractors could be employed in getting corn, potato and root land into shape. There will be a tendency owing to the help shortage, for farmers to reduce corn acreages, with a consequent shortage of ensilage next winter. A big corn crop means more butter, cheese and milk all next winter. In fact, the whole scheme is of so practical a nature, that the agricultural department would be justified in putting a live general on the job at once who would assemble these tractors, secure the men and survey the field with the aid of the present country agents, within the next week or so. Impossibilities can be done, as was demonstrated at Valcartier. Some man can surely be secured now to mobilize these machines and to direct operations to such a worthy end. What British agriculture and French farming can do, can be done in Canada.

Yours, etc.,
F. M. CHAPMAN,
Editor of *The Farmer's Magazine*.

Toronto, April 12.

FARM TRACTORS AND THIS YEAR'S PRODUCTION

That was a timely and practical suggestion which was made by Mr. F. M. Chapman in Saturday's *Globe* relative to the organized use of farm tractors as a means of increasing the crop area of Ontario this year.

As Mr. Chapman said, unless some radical measures are taken at once, thousands of acres in the province will this year be left idle, or comparatively idle, because of lack of labor to prepare the seed bed and carry out the work of seeding in the ordinary way.

The best ground of hope for preventing this condition lies in the farm tractor. This fact has been realized in England and the Government there has been quick to act. Tractors have been secured by the British Government for the purpose of plowing land for farmers at so much per acre. In one case two tractors were obtained from the United States. Three weeks after being landed in England these two motors, each drawing a two-furrow plow, had turned over 200 acres of most difficult land. The machines with the aid of head light, ran night and day and plowed eight acres per day each to a depth of nine to eleven inches. One farmer, on whose land plowing was done, said a team could not have averaged over an acre a day on similar soil.

The price charged for plowing was fairly high, 17s. 6d. per acre, but this was fully compensated for by the speed of the operation. In seeding operations it is time rather than money that counts.

Such tractors could be used here, as Mr. Chapman suggested, for other purposes than plowing. They could haul a disc, seed drill and harrow at one time, and this would mean more saving in time.

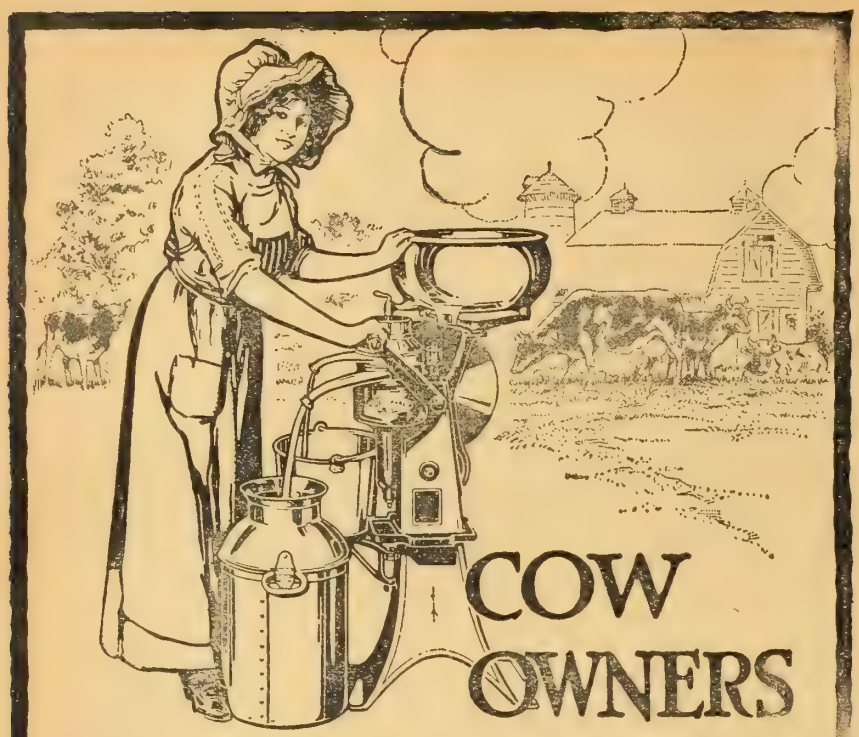
The thing is for some one to take hold and mobilize these new aids to production. The best agency can be found in the Ontario Department of Agriculture. The new Commissioner of Agriculture should get hold of some of these tractors at once and arrange for their distribution through District Representatives of the Department of Agriculture.—*The Globe*, April 18.

TRACTORS FOR SPRING WORK

A highly practical suggestion for increasing crop production in Ontario this year is that made by Mr. F. M. Chapman in Saturday's *Globe*, and referred to on Country Life page in to-day's issue. The proposal is that the Ontario Department of Agriculture purchase a number of tractors and arrange for their use, at a specified charge, under the direction of District Representatives, where their work can be made most effective in preparing land for seeding. The need of some such action is made the more urgent by reason of the fact that a considerable area of winter wheat and clover will probably have to be broken up because of the killing of these crops by unfavorable weather since the removal of the protection afforded by a blanket of snow. Conditions are, too, unusually favorable for the use of such machines this spring, the land being exceptionally dry for this season of the year.

It is true that the season is rather far ad-

Continued on page 67.



COW OWNERS

EXPECT MORE FROM A

DE LAVAL

– more cream
– longer wear
– better service
– better value,

AND THEY GET IT

A Catalogue of the NEW De Laval Machines will be gladly sent on request, and if you don't know your nearest local agent please simply address the nearest De Laval main office as below.

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50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

BISSELL Double Action Harrows will thoroughly cultivate and pulverize any soil. One Harrow is Out Throw; the other is In Throw. They are simply constructed, rigid and durable. The Gangs are flexible and the Disk Plates are so designed that they "hang" right into the soil. Bissell Harrows are built in sizes and weights suitable for horse or tractor use. Write Dept. Y for free catalogue. 98

T. E. BISSELL CO., LTD., Elora, Ont.

The Milking Machine

More milking machine outfits will be sold in Canada in 1917 than in any previous year in the history of the trade. The mechanical milker has demonstrated its usefulness. Just recently, for instance, an Eastern Ontario dairy farmer started out to investigate the workings of the mechanical milker among his neighbors. He wanted to understand the proposition from A to Z. He had a valuable purebred herd and he did not want to take any chances on injuring their udders. He inspected all the standard makes of milking machines that had been in use from one to three years on the farms he visited and was surprised to find that all his neighbors were enthusiastic advocates of the particular make of machine that they installed.

This dairyman went home and installed a milker himself. Shortly after he made a new Canadian record for a 7-day milk production and the heifer was milked with the machine right through her test. At the end of his first year he decided that the udders of his cows were in better shape than they had been with hand milking. The machine had effected a considerable saving in time, but he did not plan to sacrifice efficiency to speed. He worked the teat cups up and down on the udder and got the milking well at the start. He made a practice of carefully stripping all the cows as a check on the machine and the condition of the udders. In this, as in practically all other herds where it has been tried, the milking machine is now considered a necessity. Users differ as to the number of cows one should have before purchasing an outfit, but all agree that in a herd of 5 cows or over there is a place for a mechanical milker.—F.E.E.

The Value of a Right Start

A young farmer remarked to us the other day, "All of the animals in my herd are descended from one cow." Then with a very mournful expression he added, "And she was a scrub." His herd to-day are scrubs and he is considering the advisability of auctioning them all off and starting over again with a few choice pure-bred Ayrshire cattle.

Here is another case that stands out in strong contrast. We were standing behind Sunbeam of Edgeley in the dairy stable at the Guelph Winter Fair. Sunbeam is the champion butter cow of the British Empire over all breeds and had just secured the sweepstakes at Guelph. "A cow like that is a fortune for any man," remarked W. W. Ballantyne, the well-known Ayrshire breeder and judge, who stood nearby. On enquiry we learned that the owners of Sunbeam had five of her descendants in their home herd. One of them stood next to Sunbeam in the Guelph dairy test and the others, we were told are all promising individuals. This herd, too, traces back to one cow, but she was a pure bred and a good one.

We emphasize the need of "a good one." The herd of Holsteins now owned by F. R. Mallory was established almost a quarter of a century ago and the foundation animal was a pure-bred Holstein cow, but she was a poor one and it took many, many years of breeding to offset the influence of a bad start. One good pure-bred cow in a grade herd is a good start towards the ownership of a pure-bred herd in a comparatively few years. — F.E.E.

Boys In Iowa

Nine thousand dollars, returns in profits and prizes, is the small fortune received the past year by the 238 Iowa boys, as a result of their efforts in the State baby beef contest, according to a report just completed by the field representative of the Iowa Beef Producers' Association.

A Mile of Potatoes

One of the prettiest sights we saw last summer was four rows of potatoes a mile long by the roadway and bordering an immense field of wheat, says the Indian Head, Sask., *News*. The potatoes were in blossom, the vines of vigorous growth, the rows perfectly straight and far enough apart for the use of a cultivator.

Can't Will Wife's Home Away

When the new Dower Act is placed on the statute books of Alberta a married woman will be able to remain in unquestioned and undisputed possession of the family homestead during the whole of her lifetime, whether it is a house in the city or a farm in the rural district.

OWN A GRAY DORT YOU WILL LIKE IT

Conqueror of ALL Roads!

You will never know what road mastery is till you ride in a Gray-Dort. The Gray-Dort does not merely travel a road — she conquers. Where going is smooth, her flight is swift as an eagle's—unhindered by fatigue of passengers, smooth as a summer sea. She breasts hills like a bird breasting the breeze—without apparent effort—swiftly, noiselessly, even-tempered. She smoothes out the roughest roads by virtue of her long springs and deep upholstery. And mud and sand — hub-deep—hold no terrors for her. She goes through without labor, with never a miss or a knock to disturb the even tenor of her motor. Etienne Planche built a masterpiece when he designed the compact, economical giant of power that nestles under her hood.

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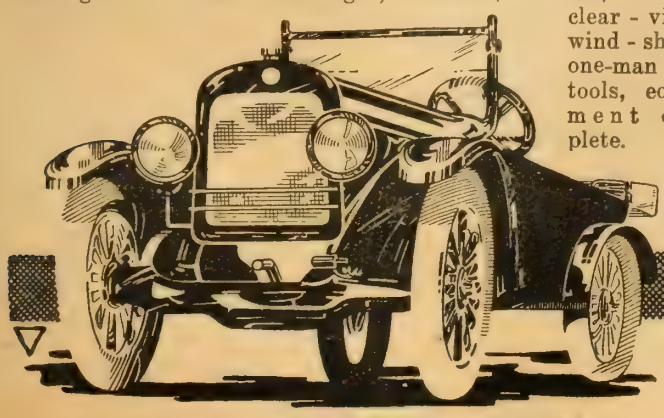
Motor—4 cylinder, L-head type, bore 3¼ in., stroke 5 in., horsepower 28. Cast iron removable heads. Carter carburetor. Thermo-syphon cooling. Westinghouse two-unit starting and lighting system. Connecticut battery ignition. Three-speed and reverse selective transmission, with double row New Departure bearings. Gasoline tank under cowl. I-beam heavy duty front axle. Three-quarter floating rear axle, with Hyatt High Duty bearings. 10-inch internal expanding and external contracting brakes. Springs—front 37 in. elliptic, rear 50 in. full cantilever. Left-hand drive. 30 x 3½ Dominion tires. Nobby tread rear. Westinghouse electric lighting. Linoleum covered running board. Lock ignition switch. Dashlight, ammeter, roberail, footrail, clear - vision wind - shield, one-man top, tools, equipment complete.



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3 Passenger Roadster Model $910

Gray-Dort Motors
LIMITED
Chatham, Ont.

American Factory at Flint, Mich.

Business of Farming

A Fertiliser Report

Anyone who wants to work out or follow some of the valuable experiments with fertilizers on farm crops, ought to send to Ottawa for the Report of the Division of Chemistry for 1916, Department of Agriculture, Ottawa. The work on fertilizers has been in charge of B. Leslie Emslie and is most thoroughly done, although it may take some careful studying to ferret out the results from the table submitted.

Try a Field of Beans

Not the least useful or profitable crop that the farmer in the warmer portions of Canada may grow this season is the bean crop. There is not the ghost of a chance of there being any over-production of this staple. Should the war continue for another year, the armies on the field will require this article of food. Should the war end there is every prospect that the cities and towns will demand beans as a substitute for meat. Even at two dollars per bushel beans are a paying crop. But at this moment they are nearer six dollars per bushel than two dollars.

Planted as they are between the first of June and the middle of the month, and harvested as they are between the first of September and the middle of that month they are well out of the road of ordinary seeding or harvesting operations. Further, this crop furnishes the best preparation for fall wheat and seeding to clover, neither of which crops fail as a rule after a bean crop has been sown.

For the first year there is not any need of increasing the farm equipment for the planting of the bean crop. The tools that cultivate the corn and that harvest the pea crop will meet the requirements of the bean field.—A.B.D.

Barn Cleaning As Well

If farmers would make it a regular job to clean the premises once or twice every year, just as the housekeeper has a general housecleaning, infectious diseases among farm animals could be controlled, and the mortality of 6 to 10 per cent. from calf scours, hog cholera, blackleg, contagious abortion, and other diseases might be reduced to the minimum.—Geo. H. Glover.

Getting the Big Prices

The farmer who has been in a position to sell farm products this last two or three years has made money. Rarely have eggs been at the price during December of 1916 and early January of 1917. For many a day hogs have been commanding a splendid figure. Butter has been selling at a highly remunerative figure, while the price of grain and beef has been most satisfactory. In fact there has been nothing that the farmer had to offer on the market that has not brought him returns that surpass the highest anticipations of the farmer of a generation ago.

There is a peril, however, in connection with the fancy prices that have been prevailing lately for farm products. That peril is that the uninitiated will think that the farmers have been making easy money. There is just enough truth in this belief to mislead the unwary. Take the matter of egg production, for an instance. The writer has not the least doubt but that the unwary and inexperienced by the hundred will be getting ready for a large lay of eggs next December. Eggs were scarce this season, the adventurers must remember, because it was an off season for most flocks. Last summer was not a good one for the rearing of chicks. During 1915 there was a great deal of interior grain fed to fowls and this feeding had its effect upon the vigor of the hens and upon the constitutions of the chicks. The grain of the fall of 1915 was high-priced and in many respects inferior for chicken feed. Many varieties of grain were so high-priced that the average poulterer refused to purchase it all. For these and other reasons the egg production was at a low ebb. Hence only the raiser who will secure the best stock and who will venture to pay for the best food, both in quality and variety, can hope for success one year from now. The inexperienced will do well to think at least twice and to go slowly before heeding the lure of the big prices of this season.

On the other hand the farmer who has kept his farm and his business under control assuredly has done well this last two or three years. The farm with rich soil and well-working drains has brought forth as perhaps never before in its history, when returns are considered. The farmer who has built up a good strain of hogs and who was in a position to begin feeding at the advent of good prices, the dairyman who had a high-class line of milk or butter producers was on the way to add to his bank account. These are the farmers who have made and who are making money. But these are the farmers who succeed during the lean years, and in this fact lies the good farmer's comfort and advantage. Years of high prices counts as times of special advantage. He does not count on the continuance of such exceptionally high remuneration for his efforts. Nor does he disorganize his farm practice because big returns are offered for a special portion of his product. Rather, he aims to have for the market an abundance of the staples for there always is a lively demand. Of these staples his offering is of the best quality in their respective lines, whether these lines be hogs or beef or eggs or butter or seed grain or clover or timothy or other seed. Along with goods of a high quality and constant quantity goes the practice of selling to buyers who cater to a good trade. In this way when exceptionally high prices come his way the farmer

thinks of more dollars, but, meanwhile, he keeps on with the good agricultural practice that has brought him safely through the harder times. Exceptional prices, like other exceptional experiences that come to farmers, as to others who contend with market conditions, are never allowed to disturb the practice that aims at steady gains and uniform progress.—Andrew McTaggart.

Four New Farm Schools

Hon. Duncan Marshall, Minister of Agriculture for Alberta, announces that four additional schools will be built in Alberta. One of these will be built immediately, he stated, and that one would be built south of Lethbridge, another on the Goose Lake line east of Calgary, another somewhere near Edmonton and one probably in the Peace River country.

Corn in North Central Alberta

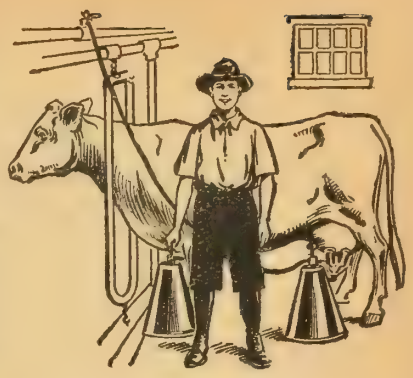
It is generally believed that corn is not a paying crop in Alberta, but a farmer at Hardisty in the North Central section of the province, which is a semi-arid belt, has been growing it for three seasons with fair success. This farmer is planting Early North-Western Dent. Of his experience he writes:

"The first season I planted in the middle of June, my object in planting so late being to get all the weeds possible to germinate before planting. But that season I decided there would have been several tons extra of fodder and some fairly well developed ears had I planted the latter part of May. I also found that the part I harrowed after it was up yielded much better than that which I didn't harrow, and the harrowing also kept the weeds down better. I haul the green manure out of the stable in the winter and spread it over the stubble. In the spring I plow the land as early as it is fit. In this way I dispose of the long, coarse manure without any bad affects on the crops that follow, and there is more danger of that here than in a moister district. After this I keep the soil stirred so as to get it as warm as possible.

"When I get the soil worked down so there are no large air spaces left in it, I plant the seed with the grain drill, setting it at three bushels and a half of wheat to the acre, stopping up the holes I don't want to sow so as to leave two feet and a half between the rows. When the corn is starting to come through I start the light harrow going and keep it going until the corn gets up about five inches. Then I put the two-horse team on the four-horse cultivator, adjusting the feet to work between the rows. In this way I can do five rows to a round. When the corn is too high for the cultivator I put on the scuffler to do the finishing touches and work as long as I can. Thus I not only get a crop of corn fodder, but put my land in a high state of cultivation for any crop that follows. I have had good success with a crop of alfalfa following my first crop of corn worked as described, also a fine catch of tame grasses in a nurse crop following my second crop worked as described. The nurse crop was a decided success also.

"When I planted my second crop I set the drill too deep, and in that way I lessened the yield considerably. I aim to sow as shallow as I can cover the seed. My third crop got hailed down, and after

"Walter would rather stay home and milk than go away on a picnic!"



HOW to get along with less hired help, and yet escape the drudgery that drives boys away from the dairy farm—this is the problem that is being solved by the

EMPIRE Mechanical Milker

No one seems to like hand milking, yet every boy loves to run a machine. Here is a typical example of how it works out:

AMHERST, N.S., Jan. 5, 1917

Dear Sirs:—

Walter, who was 16 years old, loves a machine, but hated to milk cows, so we bought the Empire Milking Machine that was shown at the Winter Fair at Amherst in 1915. It has given good satisfaction in every way.

We have milked at the rate of 40 cows an hour, but think it best not to exceed 32, as that leaves very little stripping to do.

One cow that only gave 21 quarts the year before, gave 29 quarts with the machine; two others that gave 22½ quarts the year before gave 26 to 28 quarts this year when machine milked. We have just one cow that refuses to give her milk down with the machine. The cows are very much quieter when machine milked and sore teats are all done away with. Walter has taken full charge of engine and milker since it was put in and has never missed a milking—would rather stay home and milk than go away on a picnic. GEO. E. FREEMAN

While overcoming the strongest objection to the life of the dairy farmer, the Empire Mechanical Milker is helping hundreds to make more money. Why shouldn't YOU be one of them? Write for Illustrated Booklet and full particulars to Dept. H

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Send me, all charges prepaid, the complete set of Farmers' Cyclopedia (Authentic Records of U.S. Dept. of Agriculture) in 7 big, thick volumes. If not satisfactory I will return the books at your expense in 10 days; otherwise I will send you $2.50 down and $3.00 monthly until $29.50 is paid for the books. Coburn Manual is to be free.

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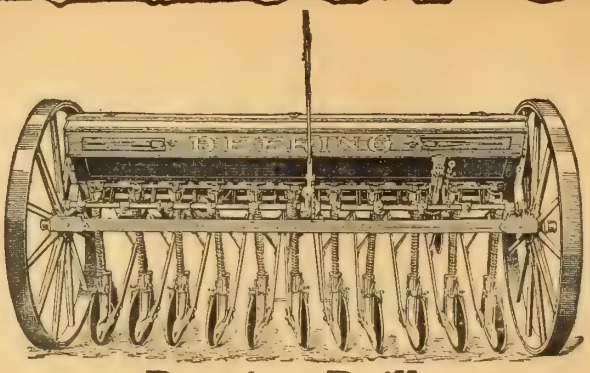

Deering Drills For Good, Quick Planting

DEERING drills do away with delay at planting time. They have a workmanlike way of sticking steadily to business until the job is done that does away with most of the terrors of our short planting season.

Then, too, they are easy on horses. The high, wide wheels help. The weight of the drill is light. The feed runs turn freely. The dust-proof disk bearings take off a lot of pull. Steady planting and light draft make a good drill combination — the kind you get when you buy a **Deering** drill.

Deering drills first make a furrow just deep enough, then plant the kernels regularly, according to the quantity per acre you want to sow, and then cover them thoroughly to an even depth. They are light-draft machines, with strong frames, large, easily-filled grain and fertilizer boxes, and accurate double run feed. They are made in single disk and hoe styles with 11 and 13 furrow openers.

The **Deering** local agent is the man to see when you are ready to look at drills. See his sample drills, or write to us for a catalogue, showing all the good features of **Deering** drills.

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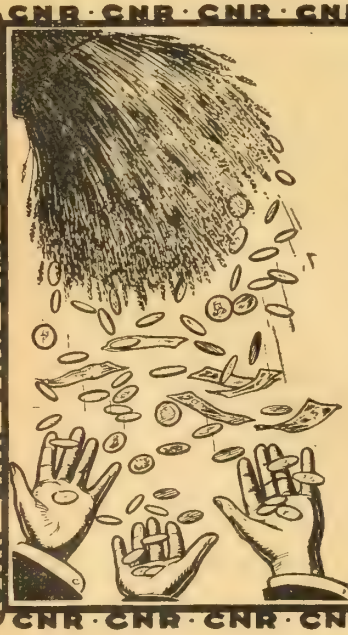

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What are your prospects as "hired man"?

How long will it take you to own a farm of your own?

These are questions which every ambitious man must face.

Don't settle in the rut of hand to mouth existence.

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getting over that got most of the leaves frosted, and still recovered sufficiently to give a considerable yield to the acre. I was agreeably surprised to see it did so even after such a test. I purpose building a silo next season in which to store some of my fodder."—W. McD. Tait.

Free Plantings in Alberta

John Glenbeck, of Alberta, has planted many trees on his farm near Gleichen. Five years ago he planted 1,000 trees, seedlings and cuttings. They were obtained from the Government Forestry Station at Indian Head, Saskatchewan, and consisted of Manitoba maples, green ash, willow and cottonwood. The maples, ash and willows are from 6 to 8 feet high, while some of the cottonwood are 12 feet high. Two years ago he set out 1,300 more trees received from the same place and same sort of trees.

A year ago he set out some 1,500 more trees, among which were some tamaracks. All are doing well.

Beavers Are Increasing

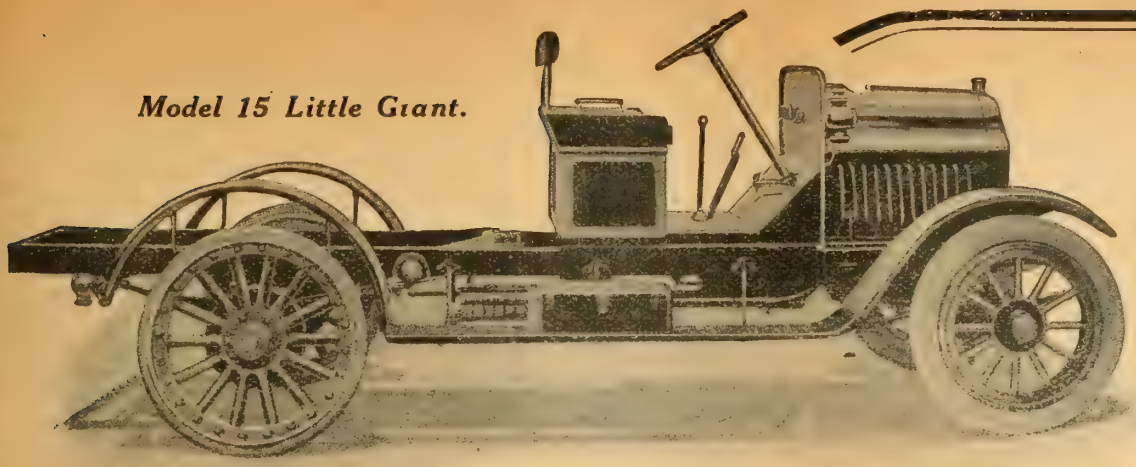
There was a time when the beaver was almost extinct in the older parts of Manitoba. Such is not now the case. The 1916 report of the Manitoba Department of Agriculture points out that "these animals are increasing rapidly and are to be found in the midst of old settled districts." Sentimentally, the preservation of the beaver should appear to all Canadians; yet the value of its fur and the ease of capture would soon cause the total extinction of the species if the guardianship of the Government were removed and free hunting or trapping permitted. As it is now, the beavers in all the older parts of Manitoba are considered as the exclusive property of the Government, to be administered for the good of all the people, and for many years no open season has prevailed.

An Act recently put through the Alberta Legislature to enable farmers who co-operate in groups of five to obtain money for their farm operations, is known commonly as the "Cow Bill." It is described by George Hoadley, M.P.P., Conservative member for Okotoks as the best one the Hon. Duncan Marshall, Minister of Agriculture ever introduced.

—Photo by F. M. C.

A pile of building lumber near Alameda, Sask., bought by an Icelander for a new barn, through the Grain Growers of Saskatchewan. Price $22 per M. Clear and straight. Prices before this farmers' company did business were as high as $40.

Model 15 Little Giant.



Farm Hauling Done at the Lowest Cost

Will Do Double the Work in Half the Time

Use Your Horses for Farm Work Only

Much of a farmer's hard-earned profits are lost in the heavy expense of hauling. Hauling expenses must be added to the cost of farming before profits can be reckoned upon.

Have you, Mr. Farmer, ever considered to what extent your expenses could be reduced by the introduction of an up-to-date haulage system? In every case where a **"Little Giant"** Motor Truck has supplanted the horse-drawn vehicle the saving in costs and time has been apparent from the start. The **"Little Giant"** enables the farmer to use his horses for plowing, seeding and harvesting, and to keep his horses for farm work only—not for hauling.

The **"Little Giant"** will haul twice the load three times as far—save feed charges, veterinary bills and farm labor—and do the work in all kinds of weather at the lowest cost of hauling. Why not investigate?

Write for literature that will show you how you can save that hard-earned money that is going into your hauling expenses. We have a model that will just suit your requirements and local conditions.

Never mind ink and writing paper. Just write your name and address on the margin of this advertisement and mail it to one of these addresses

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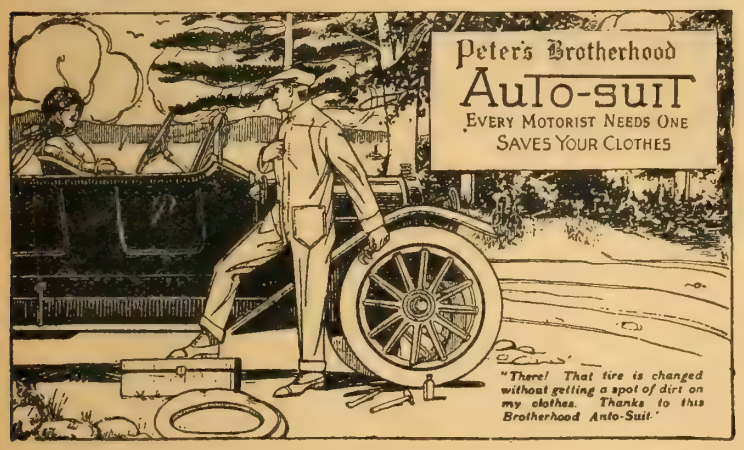
Toronto Branch, 107 Church Street — **379 Craig St. W., Montreal, Que.**

Vancouver Branch, 1073 Hamilton Street. — **GEORGE J. SHEPPARD, Vice-Pres. and Manager**



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A Brotherhood Auto-Suit covers you from neck to ankles. You can get under your car, and neither oil from above nor dirt from below can soil your business clothes. Tire repairs and engine adjustments made in half the time if you do not have to be fussy about your clothes.

No exposed buttons. No buttons to scratch the enamel or interfere with free movement. All buttons covered by flap. Large pockets. Easily slipped on and off.

Just the thing for the Sunday chores. No need to change suits. Just slip on a Brotherhood Auto-Suit.

They have special features found only in the Brotherhood suits. If your dealer does not keep them, use the coupon.

Overalls in six styles, Smocks in three styles, Auto-Suits in one style, Brownie Overalls—one style, three colors.

H. S. PETERS, Limited, Welland, Ont.

Please send prices of Brotherhood Auto-Suits. My regular dealer is

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"THE NAME THAT STANDS FOR QUALITY IN FARM MACHINERY"

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This necessitates improved methods and the installation of modern labor-saving farm machinery.

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WALTHAM WATCHES — $5.50 TO $150.00. Reliable timepieces. Send for free catalogue to The Watch Shop, Wm. E. Cox, 70 Yonge St., Toronto. (tf)

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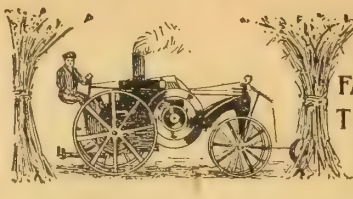
PIGEONS—BOUNCING BIG BELGIAN Carneaux, pure bred, guaranteed pairs $2.00. Youngsters 60 cents each in lots five or more. Rare Bargain. Pure White Homers, also Checkered Homer youngsters same terms. E. Bartholomew, Curries, Ont. (5-17)

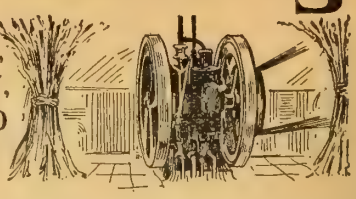
ELECTRICITY.

ELECTRIC LIGHTS, AND POWER for farm machinery, standard 110 Volt, same as Hydro. City conveniences for you. Uni-Lectric system. Oxford farmers see it on my farm working, or write E. Bartholomew, Curries, Ont. (5-17)

Farm Engineering



MOTORS, ENGINES, FARM MACHINERY, TROUBLE LOCATED AND REMEDIES SUGGESTED.



Experience of One Gas Engine User

There are a number of gas engines in my neighborhood, varying in size from 1¾ to 5 h.p. The smaller ones are used for running the washing machine, cream separator, pumping water and operating the grindstone, etc., when attached to the machine by means of a line shaft.

My engine, which is a 5 h.p., will turn an emery wheel, run the cream separator and pump water all at the same time, or I can cut any of them off while running by tight and loose pulleys. I have the engine mounted on a truck of my own make, with a wood saw attached, so that I can move around among my neighbors and saw wood. I can also operate a feed grinder of from 10 to 30 bushels capacity of small grain.

My engine can pump water for an hour on one quart of gasoline. Most farmers get the engine too small. If you only have 2 h.p. work, its alright to get a 2 h.p. engine, but most farmers who have 4 h.p. of work get a 2 h.p. engine to do it with.

I think it pays to use only the best cylinder oil possible. The best is cheapest in the long run. When a bad day comes along I tighten the bearings and grind the valves, clean it off and she's all ready to get busy again.—R.M.

Stopping Radiator Leaks

An ingenious way of stopping leaks in the radiator of the auto, even though it leaks very badly, is to put into the water a teaspoonful of flaxseed meal and allowing it to work through the system. If the leaks are large, more meal should be used. It's a cheaper method than soldering, and has been found to be just as effective.—G.

Rewinding the Spark Coil

Too often attempts are made to rewind the spark coil that has broken down. This secondary winding is usually a mile or two long, and makes it almost impossible to do a good job. New coils are cheaper. There are a number of reasons for broken down spark coils; a poor contact at the binding post, a short circuit in either primary or secondary windings, a perforated or punctured condenser, etc. In case it is the vibrator coil that is at fault, look for trouble in the vibrator as well.—M.G.

Some Don'ts for Engine Users

The average gas engine user gets to think in time that there are too many things that might happen, in operating a gas engine. It is usually, though, a small and insignificant trouble that is bothering, and a little study will solve the difficulty. Some suggestions for avoiding these troubles are given.

Your fuel is the most important thing to watch. Therefore, don't put gasoline into the tank without straining through a chamois.

Don't attempt to connect more cells or batteries in a set than recommended by the maker of the engine. You will overload the spark coil and burn it out.

Don't have gasoline turned on when engine is idle, nor the battery switch open.

Don't screw a spark plug on too tight. It may "bake" on. Graphite on the threads will help.

Don't get oil or grease on the wires of the battery circuit: it will ruin the insulation.

Don't give the engine too much oil. Just enough in the right place is better than a quart.

Don't handle gasoline by the light of a lantern or open light. Too many have, and didn't live to warn others. Unless you have electric light, fill tanks in daylight.—R.M.G.

Size of Pulleys

Many operators of power machinery do not figure the size of the pulleys for their various machines with sufficient care. The problem is not a hard one and the following simple rules may be of assistance to some of the readers. Every engine owner should invest a dollar bill in a speed indicator and then he will know exactly how fast his engine is running and won't have to guess. The pulley on the engine is called the "driver" and the pulley on the machine being operated from the engine is called the "driven pulley." When a number of different machines are operated from a line shaft, the speed of this shaft must first be found.

Rule.—The diameter of the driver pulley multiplied by its speed, equals the diameter of the driven pulley multiplied by its speed.

The following cases will make this rule clear:

Case 1.—Given the size of the driver pulley and its speed and also the size of the driven pulley, find the speed of the driven pulley.

Rule 1.—Multiply the diameter of the driver pulley by its speed and divide the result by the diameter of the driven pulley.

Example.—Driver pulley is 10″ in diameter. It runs at 600 R.P.M. (Revolutions per minute). Driven pulley is 6″ in diameter. Therefore

$$\frac{10 \times 600}{6} = 1000 \text{ R.P.M.} = \text{speed of the driven pulley.}$$

Case 2.—Given the size of the driver pulley and its speed, and the speed at which the driven pulley should be run. What will be the diameter of the driven pulley?

Rule 2.—Multiply the diameter of the driver pulley by its speed and divide the result by the speed of the driven pulley, the result will be the diameter of the driven pulley.

Example.—Driver pulley 10″ in diameter. Its speed, 600 R.P.M., driven pulley should be run 100 R.P.M. Therefore

$$\frac{10 \times 600}{1000} = 6''. \text{ The diameter of the driven pulley.}$$

Case 3.—Given the size of the driven pulley and the speed at which it should run, also

the size of the driver. How can the speed of the driver which will give the desired speed on the driven pulley be found?

Rule 3.—Multiply the speed of the driven by its diameter. Divide the result by the diameter of the driver pulley and the result will be the correct speed of the driver pulley.

Example.—Driven pulley is 6″ and should run at 1000 R.P.M. Driver is 10″ in diameter. How can the desired on the driven pulley be obtained?

$$\frac{1000 \times 6}{10} = 600 = \text{speed of the driver in R.P.M.}$$

Case 4.—Given the size of the driven pulley and the speed at which it should be run, also the speed of the driver pulley. How can the size of the driver pulley be obtained?

Rule 4.—Multiply the speed of the driven pulley by its diameter. Divide the result by the speed of the driver and the result will be the size of the driver pulley.

Example.—Drive pulley 6″ in diameter, speed 1000 R.P.M. Driver pulley speed 600 R.P.M.

$$\frac{1000 \times 6}{600} = 10'' = \text{diameter of the driver pulley in inches.}$$

Here is a specific case of trouble from lack of a thorough understanding of the foregoing examples:

The manufacturers catalogue stated "the feed grinder requires from 4 to 8 horsepower and should be run at from 400 to 800 R.P.M.; it is equipped with a 6-inch pulley." A farmer who owns a 4-horsepower engine takes the grinder home intending to use his engine, which is equipped with a 12-in. pulley. He does not take pulley sizes into account, starts his engine, opens up the grinder and the result is the engine is stalled. What is the reason? He knows his engine can develop 4 h.p., so decides the trouble lies with the grinder and returns it to the dealer. The 12-in. engine pulley running 400 R.P.M. belted to a 6-in. pulley on the grinder made it run 800 R.P.M., the grinder at this speed requires an 8 h.p. engine to run it. Cases are often more complicated than this one, but it illustrates the point.—J.M.S.

The Agricultural Engineer—His Prospect

"Agricultural Engineering." What is it? The art and science of engineering applied to agriculture. Many and marvelous have been the changes in farming methods since the days of our grandfathers. Great advancement has been made by improving and increasing agricultural production. But has not the actual realization of this been largely due to improved methods of farm management. to better implements and in fact, to all labor-saving farm equipment? The fact of the matter is that more intensive and extensive agricultural production has been made possible by the progress along agricultural engineering lines.

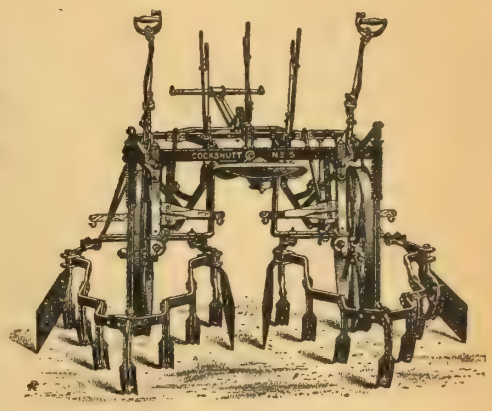
Our universities and agricultural colleges must bear in mind that the agricultural engineer must have training in all branches of agriculture as well as engineering. He must see the farmer's viewpoint. Agricultural engineering includes farm machinery, farm motors, farm structures, farm water supply and sanitation, drainage, irrigation and highway construction. Students specializing in certain branches of the work will obtain the best results.

MOTORS.

The enormous grain crops of the Dominion demand the use of an immense

Cultivate 2 rows at once

Might as well get double work done when we've made it so easy.



Every pound of foodstuff you can raise will command big prices, so you can't afford weeds in your corn or root crops this summer.

With even a short season and green help you can still make big profits if you will only give yourself the advantage of modern labor-saving equipment like the Cockshutt No. 5 Cultivator.

Here you have Cockshutt flexibility—light draft—quality—simplicity—in full measure. It GETS the weeds from 2 rows at a time.

COCKSHUTT No. 5 CULTIVATOR

Handy levers control the teeth—and crooked rows are cultivated just as thoroughly as a model field. Teeth are fitted to steel standards which in turn are attached to frame by a "break-pin" connection.

The No. 5 Cockshutt is only one in our complete line of Cultivators. You can handle any field or root cultivation with our Champion, Climax, No. 2, No. 4 and No. 5 Cultivators; or with one of our smaller Scufflers.

Ask our nearest Agent to-day for new Catalogue. It is very interesting—it may be very helpful.

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number of power machines of various kind. These crops of grain requiring the tillage of the soil and the subsequent operations of seeding, cultivating, harvesting and marketing represent an enormous investment in equipment of this kind. There is a great need for instruction regarding the operation and care of these machines.

FARM STRUCTURES.

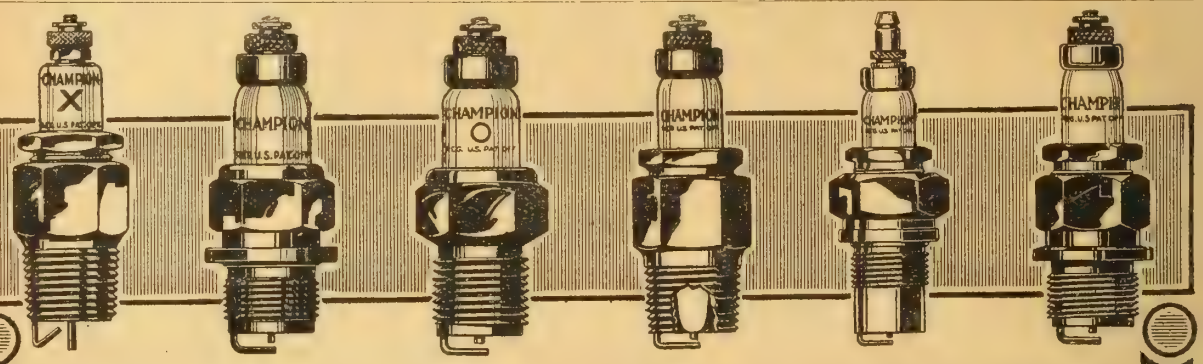
If a survey should be made of the entire field of agricultural science with the idea of selecting the branches which have been neglected and which need attention, there is no doubt that farm buildings would be the first to be recognized. This is especially true in Western Canada. Farm structures to-day represent in design and construction mostly individual effort. They have not up to the present furnished a remunerative field for experts, hence few have been trained for the work. From a mere consideration of the amount of capital invested it would seem the farm buildings are worthy of consideration. We must study the conservation of farm labor and its efficiency and distribution by properly designed and centrally located buildings on our farms. The health of farm animals as well as the quality of the products grown on the farm depend largely on proper sanitation, ventilation and lighting of our farm buildings. It is impossible to produce certified milk anywhere but in a sanitary barn.

Good farms must be near good roads and they must be well drained, especially if they are common earth roads. Underground drainage work must be carried on in the east and irrigation in some parts of the west.

Now we have seen what kind of work we expect of the agricultural engineer. What are our colleges doing to train men for this work? Is there a future for him after graduation? Yes. There is great work to be done in helping the farmers in work of this kind. The day is not far distant when consulting agricultural engineers will be available, and why not? There are positions in the teaching profession, with implement companies and best of all as farm managers where this kind of training can be put to practical use. There are very few men with an agricultural degree who do not look forward to the day when they will run a farm of their own, a real up-to-date farm, and so I feel sure that the prospect in this line is decidedly good.—J. M. Smith.

We are still reading and enjoying the FARMER'S MAGAZINE. *I find it very interesting and helpful along Institute lines. There is always something in it to take to our meetings.*

P.E.I. *Mrs. W. E. S.*



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Any Auto Supply dealer or garage can supply you with ***unconditionally guaranteed*** Champions for your motor. Be certain that "Champion" is on the porcelain.

There is a Champion for every type of Farm Engine or Tractor.

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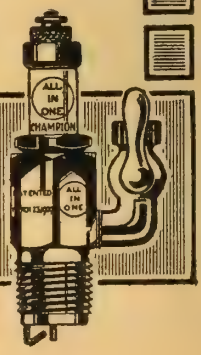

Champion "All-in-One" Priming Plug

Wireworm and Mustard

The following conversation is reported as taking place after a public meeting in England, says the London, England, *Live-stock Journal.*

Visitor: "Well, Farmer, have you read the Premier's great speech on farming?"

Farmer: "Ay."

"Well, isn't he a clever man?"

"Ay, but he wants one thing."

"What's that?"

"Knowledge!"

"What do you mean?"

"Well, he said I was feared to go between shafts o' my plough, but there bean't shafts to go between."

"Oh, nonsense! Such clever men make mistakes; but he was right, was he not, when he told you to break up your pasture?"

"No, wrong again! Pasture's the very thing that feeds milky cows cheap now labor's scarce, and crop's certain there. Arable takes a sight o' labor, and it's speculation at finish."

"But you can grow a good crop after you've broken up the grass, surely?"

"Ay, I can grow two!"

"Two? How is that?"

"Well, in these parts I should grow a crop o' wire-worm the first year and a crop o' charlock the next."

"Indeed! But, come now—it's easy to find fault—what could you do?"

"Well, I haven't been a lazy man here myself, sir, for the last fifty years. Will you come and look 'round for yourself, sir?"

"Thank you, but I haven't the time. What is your remedy?"

"Well, sir, if you want more got out of the ground quickly, I'll tell you how to do it. My son here is just home from France. He tells me that out there instead of lecturing they helps 'em. They give a 'bounty'—they call it—for each acre of spring corn sown. Then the man that knows the job gets extra labor and puts seed in sharp."

"Ah, yes; but do you recommend such a procedure in this country?"

" 'Tain't for me to speechify, sir, but it seems to me one way's preachin' and t'other practisin'—and preachin' ain't my hobby. Good day, for I'm busy just now myself, sir."

A ten-weeks old black fox puppy on the ranch of Graham Bros. in Ontario.

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Christine Miller, proving by direct comparison, that her mellow, appealing voice is perfectly Re-Created by Mr. Edison's latest and greatest, wonder—

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The New Edison is the only instrument which will reproduce an artist's performance so perfectly that the reproduction cannot be distinguished from the original.

Some of the greatest artists of the musical world have already appeared in public, singing and playing in direct comparison with the New Edison. This is the supreme test of music's Re-Creation.

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THE FOUNTAIN OF PERPETUAL YOUTH

In olden times there were certain chemists who expended all their energies in a vain attempt to discover a preparation that would prolong human life indefinitely. Needless to say, they met with no success. Life's allotted span cannot be lengthened by any artificial means. There is no "Fountain of Perpetual Youth."

At the same time many people, by sheer neglect, permit their physical powers to decay sooner than nature demands.

Take the organs of digestion, for instance—the stomach and bowels. Neglect of these organs, or abuse of their functions, are responsible for a great many premature deaths.

Fortunately, warning symptoms are given when the stomach and bowels are deranged. These consist of nausea, dull and sick headache, loss of appetite, sharp pains in the pit of the stomach, bad taste in the mouth, and a feeling of general depression.

Every time symptoms like these appear you are being warned that all is not well with your digestive organs. Unless promptly heeded grave danger is incurred. The best plan is to procure a box of Parmelee's Vegetable Pills, for this is a remedy with a wonderful record of success in restoring the stomach and bowels to normal condition.

Parmelee's Vegetable Pills are compounded from a tried and tested prescription. Their function is to promote an even flow of bile, thus improving the tone of the stomach and assuring good digestion, while also relieving constipation by the exertion of a gentle action on the bowels.

Whatever you do, never neglect the stomach or bowels; for while there is no Fountain of Perpetual Youth, the nearest thing to it is a set of perfectly healthy digestive organs. Only by keeping these all-important organs in the best of condition can one hope to attain a "green old age." And make it a point to avoid the use of harsh purgatives. They are always harmful. Instead, take the remedy that has given renewed health and vigor to thousands of people—Parmelee's Vegetable Pills. Price, 25c a box. At all dealers and druggists.

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WALLACE B. CRUMB, 75, Forestville, Conn., U.S.A.
Canadian orders filled from Canadian factory.
All correspondence should be addressed to the home office. State in inquiry if you prefer booklet in French or English.

How Many Birds Nest on Your Farm?

Birds' nests are always a subject of interest to the boy. And while many boys are bent on destruction of these nests, a greater number are now seeing the pleasure that comes from protecting them and studying their habits. The whole farm is full of interest to the bird and nature lovers. That celebrated old man John Burroughs, writes very interesting accounts of his nature studies.

We invite the farm boys and girls to hunt for these nests, and see how many are to be found on their home places. Let us know, giving the names of them as far as you can and we will publish your list and tell where your farm is.—F.M.C.

U.S. Bird Census

For every 100 robins reported in the 1914 census there were 49 catbirds, 37 brown thrashers, 28 house wrens, 27 kingbirds and 26 bluebirds. This last number is particularly gratifying because only a few years ago nearly the whole bluebird population of the Eastern States was destroyed by an unusually severe winter. Since then the birds have been gradually recovering from the catastrophe, and this season's census shows that there are now several million bluebirds in northeastern United States.

Birds on a Small Lot

Birds eat many kinds of insects, among which are grasshoppers, cutworms, armyworms, and many green worms that infest the trees, and moths that do so much damage to our apple-trees. We had a plague of army-worms this summer, and the English sparrows would come in flocks, and stuff themselves, until they could swallow no more, says a writer in *Dumb Animals*.

My home occupies one quarter of a block and besides the sparrows, I have wrens, humming-birds, redbirds, robins, thrushes, catbirds, orioles, blackbirds, blue jays, mourning-doves, several species of woodpeckers, rain-crows, phœbe birds, wild canaries, and birds smaller than wrens, do not know the species. They all build here and live in harmony.—A.F.M.

The Queen Bee

To be a successful beekeeper, one must have a fair understanding of the domestic life within the hive and must know just what to do and when to do it.

The honey bee belongs to an order of insects that, as a rule, congregate in large numbers as found in the hive or colony. Inside the hive will be found three distinct form of adult bees; the Queen, Drones and Workers.

Only one queen is normally found in each colony and her duty is to deposit eggs from which all bees are hatched. In appearance she is much longer than the worker and is also slightly thicker and broader. However, on account of her lengthened abdomen she appears much more slender and wasplike than a worker.

A good queen will, during the height of the honey season, deposit as many as 1,000 to 3,000 eggs per day, and usually she will continue active egg-laying for two, or even up to five years.—R. M. Muckle.

Beginning in Bees

Begin in a small way. Invest, say, ten or fifteen dollars in bees, and learn it as you expand your business. Make the bees pay their way. Buy from a reliable man and be sure there is no foul brood present. Visit a progressive bee keeper, and spend a day with him. You will gather a great deal of information.—R.M.M.

Be Ready for Swarms

The old saying runs that a swarm in May is worth a ton of hay, and as a rule the early swarms are the best. A beesmoker, bee-veil, gloves, honey-knife, beebrush, and a few empty hives are all that is needed.

Honey Per Hive

The amount of extracted honey that may be obtained from a well-managed colony of bees is hard to state because it varies with the locality and season. The average yield per hive in Manitoba is usually in the neighborhood of 100 lbs. In a good year a colony will pay for itself in the average locality, but seasons during which the honey crop is a partial failure occur even in the best districts.

It is estimated that there are in Manitoba about 450 beekeepers, who have in round numbers 10,000 colonies of bees, yielding approximately 800,000 lbs. of honey. The average price received by the beekeepers for extracted honey is from ten to fifteen cents per pound.

Bees in Manitoba

The question is often asked by farmers and others, "Do you think my district suitable for beekeeping?" It would be hard to find a place in Manitoba where a few colonies of bees would not gather a fair honey crop during an average year. An ideal locality is one having a certain amount of forest to shelter the hives from the cold north and west winds in the spring and fall, an average number of honey plants, and some places where the bees can obtain water.

The following list includes a number of the more important honey and pollen plants: Fruit bloom, dandelion, willow, raspberry, basswood, blueberry, mustards, thistles, clovers, fire weed, goldenrod ,asters, etc.

Having decided to go in for beekeeping, the question arises, "How should I begin?" The best time of the year to make a start in beekeeping is during the early part of the summer, May or June. Small beginnings should be made with as little expense as possible. Invest ten, fifteen or

twenty-five dollars; then make the bees pay their own way.—R. M. Muckle.

Transferring from Barrels, Hollow Logs, Etc.

When the bees are housed in a barrel, a section of hollow log or other make-shift for a hive, which, on account of its form, may not lend itself easily to one of the methods just explained, the following plan is recommended:

Remove part of the head or top of the barrel and turn it upside down, saw the barrel off close to the combs and tilt as in the case of the box-hives. Elevate the new hive so that the bottom-board is even with the upper edge of the barrel. Blow smoke in at the bottom of the inverted barrel and drum on the sides, blowing in occasional puffs of smoke, until all the bees have run up into the new hive. See that the ends, or edges, of the combs in the barrel face the entrance of the hive and are not turned broadside. The bees between the combs will not linger so long if the smoke gets between the combs quickly and the bee-keeper standing opposite the entrance can watch the progress more easily.

After the bees have been drummed out and the new hive set on the stand where the barrel formerly stood, the best combs in the barrel can be used in frames, as in the case of the direct method, providing the bee-keeper is certain no disease exists. If the combs in the barrel are not more than a year old greater care has to be taken, because newly-built combs crush very easily in warm weather, especially if heavy with honey. In drumming bees from boxes or barrels in which there are recently built combs it might be well to separate each comb from its neighbor with one or two wads of paper, so that they will not fall together. This also insures room for the bees to pass up easily. —F.E.M.

Control of Swarming

The most successful methods of swarm control are (1) by giving abundant ventilation and room at the mouth of the hive in warm weather; (2) by preventing over-crowding and giving plenty of room to store the honey by adding a super.

For Bee Information

Write to your Provincial Agricultural Department, to your nearest Agricultural College or to the Dominion Experimental Farm, Ottawa, for information on bee-keeping.

Bees At Experimental Farms

Bees are now kept at fourteen of the Dominion Experimental Farms, namely: the Central Experimental Farm, Ottawa, and the following branch farms: Charlottetown, P.E.I.; Nappan, N.S.; Kentville, N.S.; Fredericton, N.B.; St. Anne de la Pocatiere, Que.; Cap Rouge, Que.; Brandon, Man.; Indian Head, Sask.; Lacombe, Sask.; Lethbridge, Alta.; Invermere, B.C.; and Sidney, B.C. At all these stations, with the exception of Indian Head where bees have not been kept sufficiently long to produce definite results, bee-keeping has been found to be profitable. At Lethbridge alfalfa has proved the principal source of surplus honey. At Brandon, Lacombe and Invermere, the sources have been mixed. At the remaining stations, alsike or white clover are the principal, but by no means the sole, sources.

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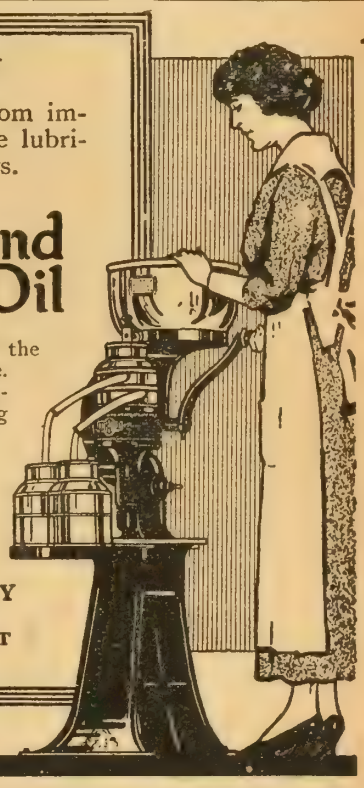

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Our Fashions Pages

CHARMING for spring are designs 8510—8645. The waist has a lining in high or open neck and one-seam sleeves. The skirt measures 3⅝ yards at the lower edge in the medium size.

The medium size requires 2⅞ yards of 36-inch plain foulard for the waist, ⅜ yard of 36-inch white organdy for the collar and ruffles, and 4¾ yards of 42-inch French serge for the skirt.

Waist 8510 in 6 sizes, 34 to 44 inches

Dress 8640

Waist 8510
Skirt 8645

bust measure. Skirt 8645 in 5 sizes, 24 to 32 inches waist measure. 15 cents each.

The dress of silk or taffeta is always splendid for this season. This one (8640) has a removable chemisette, a waist with one-seam sleeves in full or shorter length, and a two-piece skirt that measures 3¼ yards at the lower edge. There are side plaits at each side of the skirt and the circular back extends above the waistline.

The medium size requires 6 yards of 36-inch taffeta for the dress, ½ yard of 36-inch crepe de Chine for the collar and facing the sleeves.

Dress 8640 in 5 sizes, 34 to 42 inches bust measure, 15 cents.

For the spring dress of the very little girl nothing could be more attractive than design 8708. It is in collarless or open neck, with one-seam sleeves in full or shorter length, finished by a frill. The dress may be held in by a sash slipped through openings or allowed to hang free.

The 4-year size requires 1¾ yards of 36-inch white batiste for the dress.

Dress 8708 in 4 sizes, 1, 2, 4, and 6 years, 10 cents.

The dress illustrated in design 8702 is most attractive for a little girl. There is a lining in collarless or open neck, which may be omitted. The waist may be tucked or gathered, and there are one-seam sleeves in full or shorter length. The straight gathered skirt also has tucks.

The 14-year size requires 3½ yards of 36-inch dark pongee for the dress.

Dress 8702 in 4 sizes, 8, 10, 12 and 14 years, 15 cents.

Dress 8663 has a two-piece circular skirt. The 16-year size requires 4¼ yards of 36-inch cotton sports crepe for the dress, ⅝ yards of 36-inch plain crepe for the collar and sleeve facings, and 1 yard of ribbon for the girdle.

Dress 8663 in 3 sizes, 16 to 20 years, 15 cents.

The April Farmer's Magazine came yesterday. I was delighted with it. An article, "A Farm House Interior," was especially interestings; so is, indeed, the whole paper. We take numerous papers, both Canadian and the Old Country; but the FARMER'S MAGAZINE *seems nearer the ideal. We consider the articles so well chosen.*

Nova Scotia. —*Mrs. E. W.*

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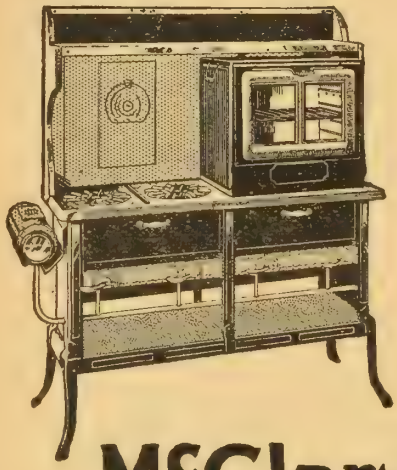

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Dress 8605 in 5 sizes, 34 to 42 inches bust measures, 15 cents.

THE MONTH'S RECIPES

ECONOMY OMELET.

4 eggs
½ cup milk
¾ cup soft, stale bread crumbs
¾ teaspoon salt
⅛ teaspoon pepper
1 tablespoon butter

Soak bread crumbs in the milk, add the beaten yolks and seasonings and fold in the stiffly beaten whites. Heat the frying pan, put in the butter and see that the whole inside of the pan is thoroughly greased. Turn in the mixture, and place on the range where it will cook slowly. When well puffed up and delicately browned underneath, place the pan on the grate of the oven, so the top may cook without the bottom being toughened. The omelet is cooked when the egg white will not stick to the finger when touched on top. Fold and turn on a hot platter.

EGGS AND MACARONI.

4 hard boiled eggs
1 cup cooked macaroni
½ cup grated cheese
1½ cups milk
4 tablespoons butter
4 tablespoons flour
1 teaspoon salt
⅛ teaspoon pepper
1 onion
¾ cup bread crumbs

Melt butter in a saucepan, stir in flour, add milk, stir until it thickens and add salt and pepper. Put macaroni in a buttered dish. Add eggs cut in eighths lengthwise. Chop the onion fine or grate it and add to the macaroni and egg. Pour over the white sauce. Cover with buttered crumbs and bake until the crumbs are brown.

SAVORY SCALLOPPED POTATOES.

Pare and slice potatoes and put in a buttered baking dish. Add a chopped onion and sprinkle with salt pepper and a dash of sage or chopped parsley. Cover with milk. Bake slowly, cover, for one hour, then remove the cover and leave in the oven long enough to brown.

FRENCH TOAST.

2 eggs
½ teaspoon salt
1 cup milk
About 6 slices stale bread

Dip each slice of bread in the mixture of beaten egg and milk, and fry until brown on a hot greased griddle.

MAPLE ROLLS.

2 cups flour
4 teaspoons baking powder
1 teaspoon salt
2 tablespoons butter
¾ cup milk
Scraped or grated maple sugar

Make a biscuit dough of the first five ingredients. Roll out in oblong shape one-half inch thick. Brush with melted butter, spread with maple sugar, moisten the outer edges and roll up firmly like a jelly-roll. Cut in cross-wise slices about one-half inch thick, place in a buttered baking-pan cut side down and bake.

Continued on page 32.

Saves Eggs

Royal Baking Powder makes it possible to produce appetizing and wholesome cakes, muffins, corn bread, etc., with fewer eggs than are usually required.

In many recipes the number of eggs may be reduced and excellent results obtained by adding an additional quantity of Royal Baking Powder, about a teaspoon, for each egg omitted. The following tested recipe is a practical illustration:

SPONGE CAKE

1 cup sugar
½ cup water
3 eggs
2 teaspoons Royal Baking Powder
1 cup flour
1 teaspoon salt
⅛ cup cold water
1 teaspoon flavoring

DIRECTIONS: Boil sugar and water until syrup spins a thread and add to the stiffly beaten whites of eggs, beating until the mixture is cold. Sift together three times, the flour, salt and baking powder; beat yolks of eggs until thick; add a little at a time flour mixture and egg yolks alternately to white of egg mixture, stirring after each addition. Add ⅛ cup cold water and flavoring. Mix lightly and bake in moderate oven one hour.

The old method called for six eggs and no baking powder

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Maple Rice Pudding

Soak ½ envelope of KNOX SPARKLING GELATINE in 1 cup of milk ten minutes and dissolve in 2 cups of hot boiled rice cooked dry. Add 1 cup of granulated sugar or brown sugar, maple sugar or maple syrup and ½ teaspoonful of salt, 1 cup chopped nut meats, if desired, 1 teaspoonful vanilla, and when cool fold in 1 cup cream, beaten until stiff. Turn into mold which has been dipped in cold water. When firm, remove from mold and serve.

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FROM THE KITCHEN WINDOW

A Woman's Outlook

By GENEVIEVE

"The toad beneath the harrows knows
Everywhere the tooth-mark goes;
The butterfly upon the road
Preaches contentment to the toad."

IT seems that human nature is generally slow to sympathize with the agonies of others until the experience becomes personal. Here, where after all the hardships that have been prophesied as sure to accompany the war, things still seem to be pretty normal, except in the homes where men have gone, it is hard for most of us to feel very much of what is being suffered by the millions directly affected. If we knew, our letters would go oftener, and they would be braver with a deeper note of sympathetic understanding. Our work for the comfort of the men in the trenches and for the care of the wounded would increase in interest every day., and we would see even more clearly the need of adding our contribution to the country's production of food.

The following extract from letters from an officer of an Indian regiment at the front describes conditions that most of us at home have ever imagined:—

"Am sitting in the bottom of my trench," he wrote, "quite cheery and merry and bright. Was up all night, being worried by a few odd snipers, and now there is a fellow having pots at our men from about a hundred and thirty yards away. Have spent a lot of the morning puting a roof over half our trench, both as protection against shrapnel and to keep us dry. Had lunch off a piece of bread some four days old, and a tin of bully-beef, also a pear which the machine gun men brought from a tree behind the trenches.

"Same trench, same spot . . . We have quite amusing meals. Yesterday they could only get us out a piece of bread, about one-third loaf, four dog biscuits and three potatoes between the pair. However, we had a very little bully-beef in a tin mixed up with prunes, and an apricot! You should have seen how keenly we chased the last shreds of the meat, which tasted like no meat you've ever had, as it was mostly prune. Such a collation in ordinary life would have been thrown to the dogs with scorn, and was now received by us more than gratefully and thought jolly good."

A lieutenant pays tribute to the cheerful manner in which the British soldier faces all hardships. He says:

"The men are very good. In comfortable billets with finest cut tobacco, and straw, and heaps of good food, they grouse all day, but in a clay trench for forty hours in pouring rain, under heavy fire, no matches, very little water or food (perhaps not once in twenty-four hours), they laugh and jibe and sleep, and never a word of grumbling.

"The other day we went off at five without our rations or water-bottles filled (owing to a mistake), and remained in trenches all day, and then, when it was dark, got bread and cheese and water. I think it was the best meal I have ever eaten."

Describing a typical siege in the trenches in winter, a Canadian writes:

"The regulars, whom we were relieving, were in a terrible state for the trenches were waist-deep in slush. Our engineer officer gave the platoon leave to dig new trenches for ourselves. The regulars had tried the night before and lost a lot of men. We simply worked like fiends. It was fine during the day, but later the rain came down again like everything and we were soaked to the skin. The water rose higher and higher and we had to stand for twenty-four hours in slush and water. It was impossible to feel one's feet. When relieved we had a ten-mile march back to our billets. It was not a march but a shamble. The march really saved me as I could not stand when I got ont of the trench. We arrived home at three o'clock in the morning and just flopped down in our wet things and slept. We had had no sleep for three nights."

Sometime, before long, we hope we can look out from our kitchen window on our sunny fields and know that all this is over, that we can go back to some of the favorite little superficialities dear to women's hearts but unseemly just now. for the present these other things are realities.

The Month's Recipes

Continued from page 31.

PARKER HOUSE ROLLS

2 cups scalded milk
3 tablespoons butter
2 tablespoons sugar
1 teaspoon salt
1 yeast cake dissolved in ¼ cup lukewarm water
Flour

Add butter, sugar and salt to milk. When lukewarm add dissolved yeast cake and three cups of flour. Beat thoroughly, cover and let rise until light; cut down and add enough flour to knead (it will take about two and one-half cups). Let rise again, toss on lightly floured board, knead and roll out to one-third inch thickness. Cut with biscuit-cutter. Dip the handle of a knife in flour, and with it make a crease through the middle of each piece. Brush over half of each piece with melted butter, fold and press the edges together. Place in a greased pan one inch apart; cover, let rise, and bake in a hot oven twelve to fifteen minutes. As rolls

rise they will part slightly and if hastened in rising they are apt to lose their shape.

QUICK SPICE CAKES.

5 tablespoons soft lard or dripping
1 1-3 cups brown sugar
2 eggs
½ cup cold water
1¾ cups pastry flour
3 teaspoons baking powder
¼ teaspoon nutmeg
¼ teaspoon ground cloves
½ teaspoon cinnamon
1 cup halved raisins

Put all the ingredients in a bowl or cake-mixer and beat thoroughly. Bake in a moderate oven for about forty-five minutes.

RAISIN SALAD.

Wash the raisins, soak over night, bring them to a boil, drain and cool. Mix with the celery and apple cut in dice, sprinkle with salt and cayenne, dish on nests of lettuce leaves, and cover with salad dressing.

1 cup raisins
1 cup chopped celery
1 apple
½ teaspoon salt
Dash of cayenne
Salad dressing

TAPIOCA WHIFF.

Soak over night one-half cup tapioca. In the morning add a cup of milk, a little salt and about one-quarter cup sugar. Cook until clear and stir in the beaten yolks of two eggs, cook a minute or two longer and remove from the fire. Beat the whites of the eggs very stiff, fold these into the tapioca mixture and set in the oven for a few minutes to let the egg white cook. The pudding may be poured over fruit in the baking dish.

SCOTCH KISSES.

1 egg
½ cup sugar
2-3 tablespoon melted butter
¼ cup shredded cocoanut
1 cup rolled oats
1-3 teaspoon salt
¼ teaspoon vanilla

Beat the egg until light, gradually add the sugar and then stir in remaining ingredients. Drop mixture by teaspoonfuls, on a greased dripping pan. Bake in a moderate oven until delicately browned.

OATMEAL COOKIES.

1 egg
¼ cup sugar
¼ cup thin cream
¼ cup milk
¾ cup fine oatmeal
1¾ cups flour
2 teaspoons baking powder
1 teaspoon salt

Beat egg until light, add sugar, cream and milk, then add oatmeal, flour, baking-powder and salt, mixed and sifted. Toss on a floured board roll, cut in shape and bake in a moderate oven.

BOSTON ROCKS.

2-3 cup butter, or dripping
1 cup sugar
2 eggs
1½ cups flour
1 teaspoon cinnamon
1 teaspoon cloves
½ cup chopped walnuts
½ cup chopped dates

Bake as dropcakes. These improve with age if you can keep them hidden.

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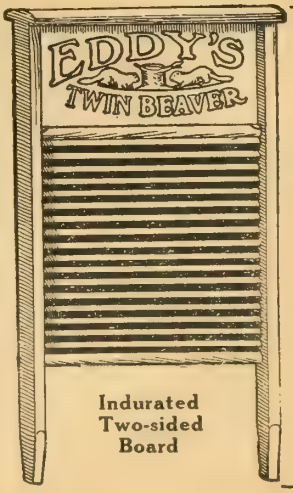

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The Market Garden

POINTERS FROM PRACTICAL MEN

J. J. Davis: Garden Expert

By J. HUGH McKENNEY

FEW MEN have attained a greater degree of success in their chosen occupation than J. J. Davis, market gardener of Byron, Ont. A dozen years ago, the almighty dollar was not conspicuous by any anxiety to get into the Davis exchequer. Recent years have, however seen a rapid development from humble beginnings. His present equipment, from which is turned out the "green goods," that ultimately find their way to the tables of London citizens, represents an investment surpassed by but few manufacturing establishments. Indeed, he does consider himself, literally, a manufacturer, with soil, water and sunshine as his raw materials.

The land under cultivation consists of about seventeen acres. It is a sandy loam and quite gravelly. In fact, it might almost be said to be stoney in some places, judging from the rock-piles to be seen here and there. Evidently, some perseverance has been necessary in ridding the surface of these. There is, however, no doubt of the productive ability of the land. Approximately, 5,000 square feet are under glass. One house is of the pipe construction type, being 125 feet long and 40 feet wide. Three others are joined and are of wood construction. Everything about the place has the distinction of being built strictly for business with but little attention paid to frills. Results do the talking. That his fellow gardeners recognize in him certain qualities of value to the whole fraternity, is evidenced by his election to the presidency of the Ontario Vegetable Growers' Association, a position he is now capably filling.

Like many men who are genuinely successful, he is decidedly modest about it. Apparently, he prefers to discuss the war, politics or any other current topic rather than personal matters, so some little manœuvring was required before our conversation was finally turned Davis-wards.

"It was my good fortune," he began, "when starting in this business to have a thoroughly practical man as a neighbor. His advice saved me the cost of many mistakes that one usually has to pay in getting his experience. Take a parallel case. The dairyman who produces milk in the winter has to employ artificial means to have the conditions similar to those that are natural to 'the good old summer time.' Besides having to follow the same principle, we vegetable growers have found that lettuce, tomatoes and cucumbers are about the only crops that can be profitably adapted to green-house culture. Of course, there are others grown on a small scale to satisfy a limited market, but we don't bank much on them.

Inside of a Davis greenhouse.
125 *ft. x.* 40 *ft.*

"To make our own climatic conditions necessitates an expensive plant. Artificial heat must be provided to take the place of the sun, a watering system substituted for rainfall and careful attention to proper ventilation to prevent extremes of temperature. All this costs a good deal, so to make any profit every foot of ground must produce the maximum of crop. The quantity of manure and fertilizer used is enormous, but you must consider that on the same piece of ground we grow three or four crops of lettuce and follow them with tomatoes and cucumbers."

"What about potash?" it was suggested.

"Well, I've been getting along quite as well without it, both indoors and out. Before the war I used muriate of potash rather liberally, but doubt if any benefit was derived from it. My experience seems to confirm the belief, that land such as this, is more in need of nitrogen and phosphoric acid. A fertilizer that has given us good results is a grade of six ammonia, thirteen phosphoric acid. Then as I said before we use a good deal of manure, which may furnish all the potash required. Sometimes, we plow down a green crop to add to the humus content of our soil, that, too, adds to the fertility. Nowadays gardeners can't afford to loose a crop on high-priced lands, so instead of using clover for this purpose I have substituted another legume, hairy vetch. When we plan to plow down a crop of this kind, I take off say a crop of beets or something early, and sow the ground with the vetch. The first time it took three of us a day and a half to plow one and a quarter acres. Now, we don't let it get so tangled before plowing, and there is little difficulty in getting it under.

Knowing that Mr. Davis practises irrigation on his land he was asked for a statement regarding it.

"If I had to depend on the rainfall entirely, especially on my soil, I would go out of the business," he said emphatically. "I guess we gardeners are about the only class of people who can sell water with

impunity and get a premium for so doing. Let the milk dealer or the stock broker try it and see where they come to. I remember one hot, dry season, I was depending on a fine patch of pickling cucumbers for some money I was needing badly. If they were to come through they had to be watered, so I loaded some barrels onto the waggon and drew the water to the field. This was a crude and laborious method, but it opened my eyes to the value of water. I got busy investigating the merits of various systems. Several of them I have tried, and they were pretty good, too, but all took a lot of labor. Often, three of us would be busy all day with a nozzle in our hand, applying the water. Finally, I heard of the Skinner system, and that it eliminated the labor of application. Now, I have about four acres under this system, and as near as I can figure it out, engine, pipes, pump, and so on cost about $1,000. The pipes are placed fifty feet apart and the nozzles in the pipes, three feet apart. By this means the plants can be kept in the pink of condition."

As an illustration of the benefit from irrigation, Mr. Davis mentioned a half-acre of celery with which he had won second place in the standing crop competition in his own district. There was a total of 21,000 plants, and the entire crop from this small area sold for $700, whereas without irrigation, anything more than a very indifferent yield would have been impossible.

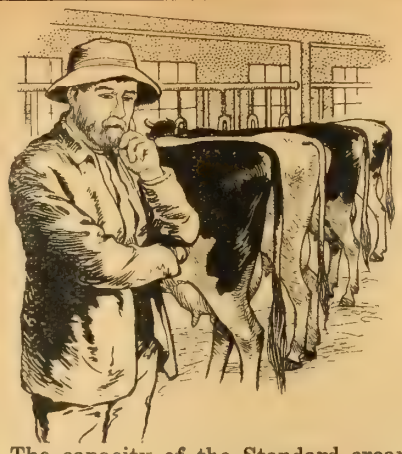
Asked if he would advise every grower of truck crops to install the Skinner system, Mr. Davis, while recommending such a course, strongly advised caution on certain points.

"I never like to advise a man to go into debt," he said, "but I doubt if there is another piece of equipment that will help him so quickly to get out again, and continue to make good money on his investment. At any rate I would do it myself. But in making a start he should not pinch the dollars too hard. It is a serious mistake to put up a string of half-inch pipe and think he can water satisfactorily half an acre. That size would hardly do for a quarter of that area. Then I've seen men install a plant just large enough for say an acre. In a year or two they feel like branching out, and think all they have to do is to put up more pipe and water two acres or three as the case may be. The theory looks alright, but is not good in actual practice. The whole outfit must be enlarged, and the first equipment discarded. Here we use a 5 h.p. engine, 2½ inch pipe and get 2,700 gallons an hour."

Market gardening is undoubtedly a business of details. To be a profitable undertaking, it must be a practical demonstration of "a little farm well tilled." It is being a master of these details that has made Mr. Davis successful.

He has reached a stage in years and financial independence where most men would be considering a period of ease, yet he is planning for a season of greater production. This notwithstanding the fact that his two sons have enlisted. At the Vegetable Growers' banquet in London the writer heard him welcome his new competitors, the back-yard gardeners and tender them the best of advice.

J. J. Davis has proven himself to be one of the many big men who till the soil for a living.



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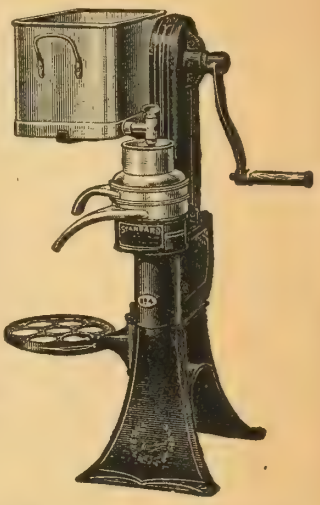

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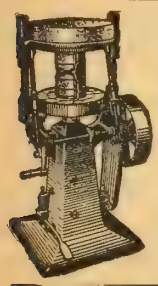

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An immense area of the most fertile land in Western Canada for sale at low prices and easy terms ranging from $11 to $30 for farm lands with ample rainfall—irrigated lands up to $50. One-tenth down, balance if you wish within twenty years. In certain areas, land for sale without settlement conditions. In irrigation districts, loan for farm buildings, etc. up to $2000, also repayable in twenty years—interest only 6 per cent. Here is your opportunity to increase your farm holdings by getting adjoining land, or to secure your friends as neighbors. For literature and particulars apply to Allan Cameron, General Superintendent of Lands, Department of Natural Resources, First Street East, Calgary, Alta.

VIEWPOINTS

School Gardens

ELI WILSON, of Green River, Ontario, puts his finger on a vital point in school garden work when he writes:

Some years of experience in school gardens' work have shown me that school gardens are most successful in villages and towns. In country districts the pupils are often too remote from the gardens to keep continued interest in the work. In villages and towns the gardens often become centers of interest and recreation for mothers and children. This helps to keep alive the interest of the pupils in their plots during the summer holidays, moreover, the mothers often give good instruction in the work.

Experience has shown also that it is better to have the teacher supervise the planting and early cultivation of the plots. Otherwise there is dangers of wasted effort from too crowded planting or lack of cultivation at the proper time. If land is not available in towns very often vacant lots may be obtained near the schools at a small rental. The main question, of course, is the teacher's willingness and ability to plan the work and supervise the pupils. It will not do to leave it to the pupils any more than it would to leave them to discover of themselves a knowledge of Arithmetic.

Our Hay Stack

N. G. COLLINS of Minnedosa, Man., would change our tonnage in the stock of hay in the English haystack pictured in the January issue. He says:

The stack in question was I believe of English hay. Primose McConnell, B.Sc., in his note book issued under official auspices only allows 10 cubic yds per well selected stack hay per ton. In his book p. 15 he states:

"The weight per cubic yd. in the stack varies from 112-300 lbs.; depending on the nature of the bag."...."196 lbs. is the conventional average adopted in East Lothian. In the South of England where hay is well sweated, 224 lbs. is a good average, i.e., 9 cubic yds. to a "load or 100 yds. per ton. Does not this again alter your figures in the 300 ton stack?

Homesteads for Allies Only

GEO. WHITAKER, of Vernon, B.C., feels rather strongly on the securing by enemy settlers, of our homesteads and rightly protests. He says:

In your January issue which is just to hand, I notice under the heading of "Homestead entries," Page 11, that during the three months ending October 1st, that one German and 234 Austro-Hungarians took up Canadian homestead land.

Now I, as a British Canadian, who has a son and a brother on the battle front in France protest against any members of enemy countries being allowed to take up land in this country. What kind of a government have we who will allow our enemies to come in and obtain land which should only be held by the people of the allied nations, are we, who are loyal subjects of the King and of Canada to suffer this injustice to continue. What chance would a Canadian have of taking up land at the present time in Germany, Austria or any other enemy country, none I know, and if he did happen to hold any previous to the war he would undoubtedly have it confiscated now, but the enemy is allowed to enter our gates and have land given him free, and at the same time freely shows and expresses his disloyalty as the Germans in Kitchener, Ont. are doing every day, vide the public press, whilst at the same time we are asked to offer our services to a government who evidently does not govern the country in the best interests of the people who are fighting and paying for its protection. I would like to see you and every other paper, both farming and otherwise, take up this matter, for the power of the press can do wonders for the country when rightly used.

John Benson's Reputation

WILFRED SADLER, of the MacDonald College staff, after noting John Benson's article in the December issue writes what he knows of this man Benson. He says:

"I know Mr. Benson well and would be glad to read more from his pen. Although at present he is not engaged directly in educational work, he is the ultimate authority on dairying in the country by general consent. You would know, of course, that when the British Dairy Farmers' Association instituted the first substantial dairy school in England at Aylesbury Bucks, Mr. Benson was asked to take it in hand. Later he was asked to organize and was appointed head of the Midland Agricultural and Dairy College, Keyston, Derby, now one of the three principal dairy schools in the country. He is a mine of information, has a wealth of knowledge and is a modest, retiring man.

"Incidentally I noticed in the same issue a reply to the question on "Cream not Churning," page 59. In the reply, which is good, an important point is, however, missed out. Not infrequently the bacterial content of the cream has much to do with the state of affairs noted; and pasteurization followed by cooling in inoculation with a pure culture starter will eradicate the trouble. All utensils in a case such as mentioned must be most carefully cleaned, or the trouble will recur. This precaution, together with the others noted by your correspondent should never be neglected."

The Hired Man Problem

HARRY R. CLEMENS, of Vineland Station, in the Niagara Peninsula, discusses a big question when he enters upon the relations between the farm and labor.

"Now that the hired help problem, on the farm, is really looking serious, we may well advance a few suggestions to the farmer in regard to his treatment of his hired help in order that his men will stay with him for longer periods and do their best work for him.

"It must be known that a farmer, who treats his men fairly, and takes an interest in them, will have much less difficulty in obtaining satisfactory help than will a farmer who works his men thin and regards them somewhat as his enemies who are trying to steal time from him, and who thinks that they will certainly waste the most of their time if he be not with them or at least expected at any moment. This latter type of farmer will certainly not be very highly esteemed by his men nor even his neighbors, and his life if continued on these principles can hardly be expected to be really a success.

"Let us first suppose that you hire a boy, maybe from school, and working on the farm during his holidays. You cannot expect the boy to do the same work as a man, but you can make him nearly as valuable to you as a man, by giving him lighter work and by studying him carefully. Try to get him to

like both yourself and your farm; be patient in showing him how and why each thing is done; on warm days tell the boy not to work too hard, and if you send him to the back fields alone, to cut weeds or to hoe corn, do not be angry nor disappointed in him if he takes a half-hour sleep in the fence-corner. Certainly never try to find him off of his work or it will make him distrust you. Teach him how to take care of the calves and chickens and then leave, maybe, the calves entirely to his care, and it is wonderful what pains the boy will take in his care of them; how he will read all the magazines to find out all he can about the care of calves. So he becomes interested in your farm and can always be depended on to do his work well.

"In the house the boy should be treated as one of the family and you and your wife should act as teachers to him, just as his parents did, and he will amply return your love and you will find a joy in being kind to him.

"Offer him all the regular holidays, though he may not care to go away on all of them and he may stay at home and help do the chores sometimes. At all times encourage the boy to be manly, honest, kind, and to do his work well. He will not, probably, take much interest in social affairs, but if he does he should be given the opportunity of going to some of the entertainments, and to the farmers' picnics. It will broaden his ideas.

"Now, if you hire a married man, which is generally the most satisfactory kind of help, the main reason probably being that a married man will settle down and stay with you long enough to become interested in his work. You must first look to the question of housing him. This difficulty may well be overcome by having a neat and, preferably, attractive cottage built with a half acre lot fenced off, where the man may keep a few hens or maybe a few hives of bees; something to keep his wife interested in, for if you can keep his wife interested the man is certainly less likely to leave you. Having a satisfactory home for your hired man you can settle the wage question much easier with him, but, of course, a good man won't work well for a poor wage. This question must be settled in a way that your man is fairly well satisfied. You must come to an agreement as to what else the man is to have besides his actual cash, probably his fuel, and milk, maybe his fruit and whatever else is convenient for you to spare him, but do not promise the man a large number of things and then refuse or at least neglect to offer them to him.

"In working the man your main task again will be to keep him interested in the farm; you should teach the man in many cases your way of doing things and criticisms should be rare and skilfully dealt with, else the man may sulk. If he be taking care of a team he will like to have his team looking well, and his harness nice and clean, so that time on rainy days should be allowed him when he may clean up his harness. Always keep on friendly terms with him and don't be afraid to discuss farming principles with him; it will make him whistle on his way home from work after a hard day's work.

"The Sunday labor, of course, must be cut down as much as possible; give him every other Sunday off.

"In regard to the hours a man on a dairy farm can hardly expect less than an eleven-hour day in the summer and a nine-hour day in the winter time. An important point is to have as far as possible regular hours and regular meals, expecting an honest day's work from the men.

"In concluding let us once more emphasize the necessity of keeping your man interested in his work; pay him well; take pains to make him happy, for in this way only can you expect the best results from him."

No Sample Market Yet.

The Canadian Council of Agriculture, before concluding a three days' sitting at Regina, went on record as opposing all consideration of the establishment of sample markets or any other change in the system of marketing grain until after the war.

WARNING!

NEPONSET

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ROOFING

ITS popularity all over Canada has made "Paroid" a household word. Do not accept inferior grades of roofing as "the same thing as Paroid"—

There is only ONE PAROID —this is the Roll

The Genuine Bears This Label

The surface is GREY. We also make it with an extra wearing surface of crushed slate, RED and GREEN—all permanent colors.

When you use the genuine Paroid, you can forget about your roof for many, many years. Paroid roofs in service now for over 19 years are still giving excellent satisfaction.

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Hardware and lumber dealers who sell Neponset products will give you good satisfaction.

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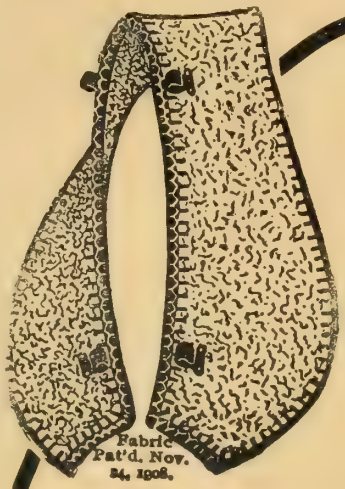
The largest manufacturers of Roofings, Wall Boards and Roofing Felts in Canada. 120



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Gall Sores, Fretting, Irritation and Fatigue.

Ventiplex Shoulder Pads prevent and cure gall sores by removing their cause—horses wearing these pads do better work, keep fit—live longer. The pads are inexpensive, very durable, easily washed—their small cost is quickly repaid from the benefits derived.

Ask your dealer for

"VENTIPLEX" Shoulder Pads and get the kind that give long wear and satisfaction.

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UNION MADE
GLOVES and OVERALLS
The Best is none too good for the Farmer
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MAKE YOUR BIKE A MOTORCYCLE
at a small cost, by using our attachable outfit. Fits any Bicycle. Easily attached. No Special Tools Required.
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Mr. C. F. Wilhelm, 35 Shanley St., Berlin, Ontario, Canada, writes: "I received your Attachment a couple of weeks ago and I like it fine, and appreciate the difference between a two cycle motor and a four cycle. Also wish to state that it has considerable more power than the (competitor's motor.)"
FREE BOOK Write today for bargain list and free booklet describing the SHAW Bicycle Motor Attachment, also Motorbicycle, complete. Our prices run from $25 up.
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Minard's Liniment always gives satisfaction. For any ache or pain. It gives instant relief.
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County Boards of Agriculture

Chas. Calvert, near Reaboro, in Victoria Co., Ont., last year built an up-to-date poultry house 25 x 50. He has 100 pullets and 100 yearling hens and during the months of January and February he sold about $85 worth of eggs. The pullets have been doing most of the laying during the winter. The whole flock is white Wyandotte.

Engineer Purcell, of the Hydro-Electric Commission, spent two days assisting the Derby Township, Grey Co., Ont., Hydro Committee in carrying on their canvassing compaign. Thirteen contracts were signed and prospects are good for several more, as some of the most promising territory was not canvassed.

As a result of meeting with the High Cost of Living Committee in Brantford some time ago it has since been learned that there are 2,796 vacant lots, aggregating 750 acres within the limits of Brantford.

Michigan—A Grange State

Out of the 83 counties in the State of Michigan 82 are now grange counties, with good live subordinate granges in each of them.

Some Co-operation Pointers

It took Denmark thirty years to get started in selling farm products together, and now that country sells $90,000,000 worth of dairy and food products in a year.

Secretary J. J. Morrison, of the U.F.O., says that farmers are asking for meetings all over Ontario. It is a spontaneous movement.

Arbor day observation should be encouraged by all good co-operative farmers.

A Grain Growers' Sunday

The idea of setting aside one Sunday in the year, when the churches could take up spirit of brotherhood as exemplified in the Grain Growers' organizations, seems to be meeting with considerable approval. Hon. George Langley, of Sask., hits the matter on the head when he said: "It is an attempt to recognize and emphasize the force that will render permanent our Grain Growers' organization."—M.K.

Oakville Man vs. W.G.G.A.

The Oakville branch of the Women's Grain Growers' Association are not falling behind in their progressive work. Their programme shows such virile discussions as "Our Government from Municipal to Imperial," "Franchise to Women," "Co-operation between Business Interests and Agriculture," and "The Economic Value of Birds."

Wants Extra Copies

P. P. Woodbridge, secretary of the United Farmers of Alberta, in writing to the editor of the FARMER'S MAGAZINE, asks for a few copies of the February issue in which the account of Pres. Wood appears. These have been cheerfully sent.

The Right Ring

We are supposed to have a representative government, writes Henry E. Spencer, of Edgerton, in a letter to his district as director of the U.F.A. How much it is, you all know. What with an unjust patronage system, political funds secretly subscribed and secretly disbursed, the

The prize-winning boys from Dundas Co. who carried off the Ontario Stock Judging Trophy, with District Representative E. P. Bradt (sitting).

farmer or worker is not likely to get a fair share of legislation. We now have a farmers' platform, and if we only support men (whether Grit or Tory) who will work for that platform, we shall gradually get a clean government, and be able to live under better and finer conditions. Nothing is given unless it is demanded, and that demand must have numbers behind it.

Amalgamation Should Be Assisted

There is danger in this controversy between the United Farmers of Ontario and the Ontario Government over the Co-operative Bill, in that politics may enter into the situation and so put a hole in the bottom of the boat.

Meetings of Farmers' Clubs in Oxford County last month were held under the direction of the District Representative and F. C. Hart of the Departemnt of Agriculture. These were attended also by President Halbert and Secretary Morrison of the U. F. O. The Government officials are seeking to blend all the clubs under the one organization, against which a deputation from the U. F. O. appealed at the time of the Annual Meeting. As a result of this difference not one club passed a resolution in favor of incorporation under a provincial centre.

In view of the fact that the U. F. O. is a spontaneous growth and forging ahead at a tremendous rate, is evidence enough, to all real economists, that it is only wisdom on the part of the representatives of the people that they assist a good movement, not clog the progress of a real organization. Everybody knows the value of an initiative begun by the people themselves, although there is also hope in the ultimate success of the people's plans, as nothing grows better than when under any heading-off process.

F. M. C.

A GOOD THING.

"How was your speech received last night?" asked one neighbour of another.

"Well," was the reply, "when I sat down, they all said that it was the best thing I ever did."

COSTS SOMETHING.

"Remember," said the employer, "that politeness costs nothing."

"Oh, I don't know," returned the youth. "Did you ever try putting 'Very respectfully yours' at the end of a telegram?"

Glad to Recomend It

I am glad to recommend your Magazine to my friends. I know they will not be disappointed. I should like to make the suggestion that once a year, in the back of one of the spring numbers, March for preference, you should print an index for the preceding twelve months.

Personally I find the "FARMER'S" full of money-saving tips, but I frequently go through the whole of my back files to get the article I want.

The index could be further divided into departments which in the January business are plainly marked.

D E. Canale.

Alberta, Can.

Shaving Single Handed in a Military Hospital

Only those who have been there can realize what the Gillette Safety Razor is doing for the wounded!

Clean shaving on the firing line, possible only with a Gillette, has saved endless trouble in dressing face wounds. In the hands of orderly or nurse it shortens by precious minutes the preparations for operating. Later, in the hands of the patients, it is a blessing indeed!

As soon as their strength begins to return, they get the Gillette into action, and fairly revel in the finishing touch which it gives to the welcome cleanliness of hospital life. For though he can use but one hand—and that one shaky—a man can shave himself safely and comfortably with a Gillette Safety Razor.

It may seem a little thing to you to send a Gillette to that lad you know Overseas, but to him it will mean so much! It will bring a touch of home comfort to his life on active service, and be even more appreciated if he gets "Blighty". 240

Give us a chance to prove to you that you can make money by working our plan.

Hundreds of men and women in Canada are making splendid salaries by working for us a few hours each day. Why not learn all about it?

If your regular position isn't producing enough money to take care of a few added luxuries—our plan will fit in splendidly, giving you as much extra money as your spare time will allow for. The more time you devote to the plan the more money you can make. To learn all about it—drop us a **Post Card**—back to you by return mail will come full particulars. This will not obligate you in any way. Simply say, "Send me full particulars of your money-making plan."

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THE BEST LINIMENT

OR PAIN KILLER FOR THE HUMAN BODY

Gombault's

Caustic Balsam

IT HAS NO EQUAL

For the Human Body —It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons, Exterior Cancers, Boils Corns and Bunions CAUSTIC BALSAM has no equal as a Liniment.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

A Perfectly Safe and Reliable Remedy for Sore Throat, Chest Cold, Backache, Neuralgia, Sprains, Strains, Lumbago, Diphtheria, Sore Lungs, Rheumatism and all Stiff Joints

REMOVES THE SORENESS--STRENGTHENS MUSCLES

Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than $120.00 paid in doctor's bills." OTTO A. BEYER.

Price $1.50 per bottle. Sold by druggists, or sent by us express prepaid. Write for Booklet R.

The LAWRENCE-WILLIAMS COMPANY, Toronto, Can.

Be Safe!

Don't take too many chances with spavin, splint, curb, ringbone, bony growths, swellings and of lameness. Use the *old reliable* remedy—

KENDALL'S Spavin Cure

In the hands of horsemen, veterinarians and farmers for 30 years it has proved its worth in hundreds of thousands of cases.

ST. FERIOLE, Dec. 4th, 1915.

Will you please mail to my address a copy of your *Treatise on the Horse*. I have been using your valuable remedies for some time, and found them *safe* and reliable.

JOSEPH L. BATZINGER.

$1 a bottle—6 for $5, at druggists—or write for copy or our book "Treatise on the Horse" free.

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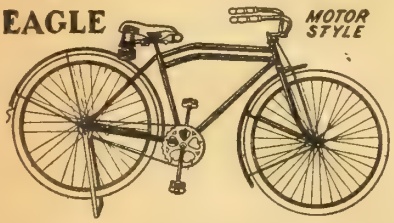
EAGLE MOTOR STYLE



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showing our full line of Bicycles for Men and Women, Boys and Girls—Tires, Coaster Brakes, Wheels, Inner Tubes, Lamps, Bells, Cyclometers, Saddles, Equipment and Parts for Bicycles. You can buy your supplies from us **at wholesale prices.**

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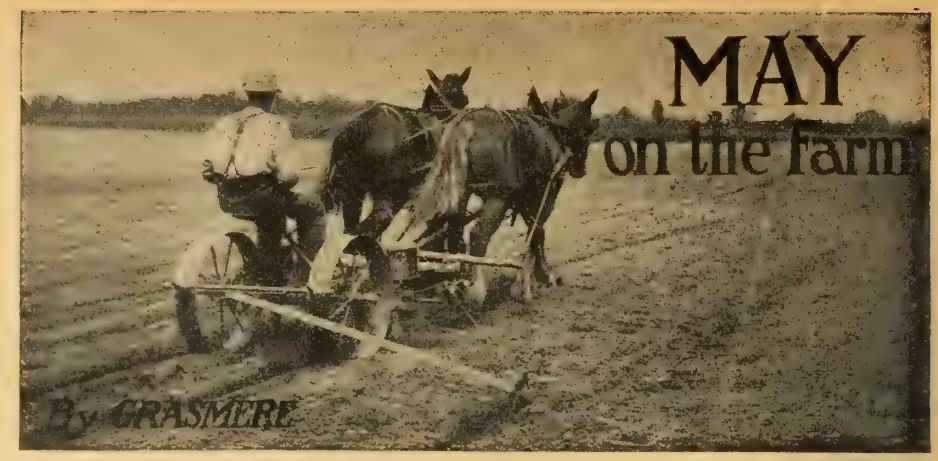


A good farmer is, at all times, a good citizen. He is doing his work well. He is maintaining a clean mind with a proper perspective of the social questions that agitate the urban centres. His contact with nature, soil, free open spaces, animals that depend on man for their perfection of form and usefulness; his freedom from the dominance of tyranny in government or industry; his simple living in the fear of God, broad-bounded by the wideness of His love which sees in every man a fellow heir of democracy under a common sky; all these fit him nobly to be the sire of the world's ruling men, the progenitor of systems yet to be.

No specious arguments of place and power become a part of his code of thoughts. He sees more clearly than another, the first cause of action and the reason for an appeal that wraps itself in silks and calls for sacrifice. First things are truly first—in the radiance of a good farm home. There is no clearer vision than that which comes on the open prairie, in the hillside field of harrowed soil, beside the flocks or among the apple limbs

A good farmer at all times produces from his heritage its maximum. No more, no less! It is his duty to himself and to his family. With such a philosophy there can come no harm to his neighbor.

And to him, the advice of the one who does not know, is like the crackling of thorns under a pot. "Plow up my meadows," he answers, "and plant potatoes? Yes, and reap wireworms and charlock this year." The good farmer knows, because he has studied and caught the latest from the experience of years. Would that our land were filled with his class. Loyalty could not be heard then, for there would be no need—the spirit of service would be at the full!—Grasmere.

Some General Reminders

He who works steadily to a purpose gets more done than the impulsive enthusiast.

Plan the work daily, the night before, and thus save useless labor.

From 7 to 12 and 1.30 to 6 are good hours for the teams, keep steady going, quit on time and be good natured.

Don't worry over the help question. We hear too much grumbling on many farms. Patience and porridge are good Scotch twins.

Get a good seed bed for the corn. An extra cultivation is worth a light coat of manure.

Harrow the potatoes frequently even after they come up.

Fences made safe when pasture is good will prevent breechy animals later.

Don't forget to run a surface drain from the low spots with your plow to prepare for the sudden freshet.

Jot down jobs for a rainy day. Then when it comes one does not lose half of it by wondering what to do.

Why not fit up a part of the implement shed for a work shop?

Shearing time is coming. Send to your nearest agricultural station for twine and bags for the wool. Keep binder twine away from contact with wool.

Do not injure farm organizations by railing against them. Farmers must hang together.

Count it disloyalty to oppose any farm movement that is going to increase farmers' powers.

Study the government advertisements carefully and co-operate when possible.

A better day is dawning for agriculture and we must be ready for ruling.

Fertilizers, good seed, clean seed, good judgment as to soils and lime-sulphur are the right kind of hired help.

We want better families, larger families, better household machinery and all conveniences in every home.

After all, is not the farm a better place than the munition plant? You did well to help out there, but do not forget that the biggest national work is good farming.

Use formalin on the potatoes. Put sets in one pint formalin to 30 gallons water and soak 2 hours. Keep fresh manure and lime away from potatoes.

The Hog Business

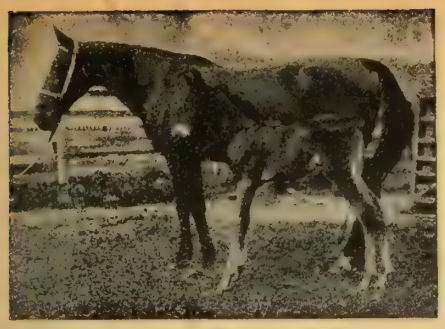
Why should there be runts in our litters? How do you handle the runt?

A hog never chooses a damp, cold bed when he has liberty.

Yet some cement pens are so poorly ventilated and windowed that a pig has no choice.

There is a shortage of breeding stock in Canada.

The bacon type of hog is the best for our purposes.



Mantua Maker and Her Twentieth Foal.

No other case has been found on record, of a trotting bred mare producing twenty foals; but Mantua Maker, above shown, appears likely to produce several more before her career of usefulness is ended. At the present time she is 25 years old. She comes of a fecund strain, and appears to have transmitted this valuable quality to her own offspring.—*American Journal of Genetics.*

Throw in some sods into the pens. Pigs crave for charcoal.

An oiling post is used in the Western States a great deal. Why not here?

A few home-made fences to enclose pasture yards will save dollars of expensive feeds.

A friend asked us to buy him a good brood sow this month. He will have to pay a good price now.

The census figures show that Manitoba, Alberta and Saskatchewan had 200,000 fewer pigs in 1916 than in 1915. This spring will find them on a 50% basis, we would give the opinion.

Give the sow a pail of warm water after farrowing and feed lightly for a day or so.

If the boys can make profits feeding hogs, so can the dads.

In handling hogs, use brains and not bull-headedness and you will not sweat, swear and murder.

It takes a good politician to drive a pig through a gate, and maintain oneself a master of the situation.

Keep a record book, and the registrations up to date, to be ready for the double chance.

The Sheep and Goats

Machine shearing comes into practice more now.

Plan to have some rope, cabbage or kale pastures.

Do not neglect dipping your sheep and lambs after shearing.

Lice sometimes trouble sheep. The dip kills them.

Get into your wool growers' association with the wool. You help all farmers by establishing a good wool market in Canada. The poorly prepared fleeces hinder our progress.

Prices for unwashed wool are going to be the best in our history.

B.C. is going into the goat breeding extensively.

For information on goats, write to the Sheep and Goat Division at Ottawa.

The Dairy End of It

A good pasture crop can be easily raised by mixing oats, wheat and barley.

The cows that sold best in our spring sales were the ones where testing was practised.

The dairy barns at the Hamilton

The "Distance-Doubler"

ONE way to grasp the significance of the Good Roads Movement now well started in Canada—is to figure the time-waste involved in avoiding the bad road. Canada's eight million people are spread over a huge area. Ours is a country of magnificent distances. Big intervals intervene between town and town. We only make this situation worse by allowing our communities to be joined by roads that double distance. The remedy is found in

Permanent Highways of Concrete

It is actually a shorter journey over a two-mile Concrete pavement than over a one-mile stretch of an old-style road. That is not theory—it's a fact. And a fact so strikingly important that all who have it set before them must, in their desire for Canada's more rapid progress, seek eagerly for the further facts about Concrete as the road pavement ideal.

Canada's development is being retarded by her bad roads. To every man in Canada belongs a share in the responsibility of removing the "distance-doubler;" to all of us comes the privilege of doing something to improve matters. The first step is to become Concrete-wise by getting our Road Book. It's free to all who write

Canada Cement Company, Limited
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"CONCRETE FOR PERMANENCE"

PEERLESS PERFECTION

No matter how fast it comes, the most unruly animal can't break through a *Peerless Perfection Farm Fence*—it springs back into shape.

Made of heavy Open Hearth steel galvanized wire with all the impurities taken out and all the strength and toughness left in. Every wire is crimped making the fence into one continuous spring. Top and bottom wires are extra heavy. Will not sag. Requires less posts than ordinary fence. Absolutely guaranteed.

Don't buy a rod of fencing until you get our illustrated Catalog. Describes our big line of farm, poultry and ornamental fencing. Also Peerless farm gates.

Agencies almost everywhere. Agents wanted in all unassigned territory.

The Banwell-Hoxie Wire Fence Company, Ltd.,
Winnipeg, Man. Hamilton, Ont.

PEERLESS THE ALL AROUND FENCE

Touchy Corns and New Shoes

The comfort of *old* shoes may now be had with *new* shoes. Blue-jay makes it possible. No need to wince from new shoes nor frown. No need to undergo a period of pain.

Before getting a new pair of shoes be corn-free by using Blue-jay, gentle and certain. Then, should a new corn come later, Blue-jay will bring instant relief.

Most families have a package of Blue-jay Plasters at home, always ready. Relief is always handy, and instant.

Paring never cures. Harsh liquids are harmful. Blue-jay removes the corns permanently, roots and all. The first application removes 91 per cent. More stubborn cases require a second or third treatment.

Wear new shoes—any shoes—with complete comfort. Forget your feet. Blue-jay points the way. Know tonight.

BAUER & BLACK, Limited
Toronto, Canada
Makers of Surgical Dressings, etc.

Blue=jay
Stops Pain—Ends Corns

15c and 25c at Druggists.
Also Blue-jay Bunion Plasters.

DREADNAUGHT Tire Chains

STRENGTH and SERVICE

Your best line of defence against auto accidents. The most careful driving and scrupulous care are not alone sufficient on slippery roads. The **Dreadnaught Tire Chains** are the acme of "Preparedness." They make care and skill effective.

MADE IN CANADA

None better at any price

30" × 3½"	$4.10	34" × 4"	$5.00
32" × 4"	4.70	35" × 4½"	5.40

None so good at the "DREADNAUGHT" price

McKINNON CHAIN COMPANY - - - ST. CATHARINES

THE FARMER'S MAGAZINE

Half of Canada's population is rural, and farmers have a greater purchasing capacity than the average town or city family. Go after the farmer's trade through his own medium.

N.B.—Objectionable advertising not accepted. Both editorial and advertising columns are closely censored to keep them clean and decent

Published by The MacLean Publishing Co., Limited, 143-153 University Ave., Toronto, Ontario

Asylum are kept clean with hydrated lime and chloride of lime.

Stopping the growth of the horns on the calf by use of caustic is a very simple operation. One application does it.

In turning to pasture, it is wise to turn out a few hours at first and then put the cows back into the stable to prevent fretting.

It pays to buy milk-feeds even at big prices to keep up the cow's production.

Look at page 74 of the February Reference Number of the FARMER'S MAGAZINE for a choice of rations.

Here is a good ration for Canada: Ground corn, 5 lbs.; ground oats, 4 lbs.; linseed meal, 1 lb. Feed one pound of this mixture daily to each 4 lbs. of milk produced.

Did you notice that the men who advertised their cows best and kept them in best condition, got the best prices at the Belleville sale?

Cow testing pays. Holsteins without a record only bring ordinary prices.

If you have any dairy troubles write us for information. We have a number of experts whose opinions are at your disposal.

If your dairy herd has an average milk production less than 8,000 lbs. there is some useful work to be done yet.

Our Beef Cattle Business

Last May we said that 9 cents was being paid for beef. Who dreamed that 2 cents would rule this year? Is it the top?

Be careful in the selection of your feeders. Type counts. Short keeps will pay.

Which steers pay best in Ontario fields, Angus or Shorthorn? Let us know your experiences.

With ordinary cows selling in sale rings for beef at $100, why should we hesitate to pay $200 for a good Shorthorn mother?

Watch both ends, of the stall, says a prominent Shorthorn breeder, in your feeding and you will gauge it right. The feeder must use his eyes daily.

Two-year old apple trees in the Lillooet Valley, B.C.

Use molasses feeds for a few weeks before turning out to pasture.

Keep every heifer at home and breed her this year.

The *Journal of Heredity* says that few Shorthorn prize winners breed prize winners. How is it?

Kill off the scrub bulls.

The Horse Business

Good horses are going to be in demand. Breed all you can to the best you can.

Steady work on the field does not hurt like intermittent hard work.

For raising a colt by hand, add about half as much boiled water to some cow's milk with a tablespoonful of sugar. Two tablespoonfuls of lime water helps in digestion. Feed a teacupful every hour. Always use same cow's milk.

Horses at work in the fields would be better barefoot. It will rest the feet and induce healthy growth.

Don't forget the bran mash once a week.

Barbed wire is an abomination on a horse farm. Good woven wire fences are safe.

Firmness, kindness, a low voice and attention to details make good, well-mannered horses.

Orchard Notes

The first spray on apples should be given just as leaves are big as a 5-cent piece.

No orchard will produce without feeding.

In burning the rubbish in the orchard, be careful not to get close to live limbs, with the heat.

If labor is scarce it might be well to cut off the third spray if conditions are not too bad.

For good, sound apples there will be a profitable market this year.

Tree planting should be finished this month.

Plant some maples and evergreens around your farm. It is a duty you owe to posterity.

It will not pay to let up on the spraying in your peach orchard.

How are you planning to make the work for the high school boys and girls pleasant for them, and profitable for you?

The best pear growers as well as other fruit growers keep the cultivator going during the month.

Should the average farmers have any orchard at all? If a man will not take care of his trees, nature will soon handle the case.

MORE WAR NEWS.

"What be these 'ere Tanks like?"

"Well—er—they're like a er—erum, and they goes like a thingamabob—in fact, they're absolutely it."

"Well, I never! I knew they was wonderful things, but I baint 'eard any details afore!"

COMFORT FOR THE LAST THREE CASES.

Magistrate: I insist on having less noise in that gallery! Do you hear? This court is becoming a perfect scandal. I've hardly heard a word of the evidence of the last three cases!

ALL THE DIFFERENCE.

Garge: 'Ow bewtiful everything looks this mornin', Tom, to be sure!

Tom: Aye, it's as I've sed many a time—this 'ere frost beats Nature 'oller, but folks only smile when I tell 'em so.

A FLEET of eleven ships—tankers, oil barges and package-carrying boats operating on both oceans and on the lakes—is but one of the units of an organization which renders service to almost every Canadian farmer.

Experience, years of it, has taught us the right oil for every farm machine. A distributing system which a great organization alone can build up makes the right oil available to you at the lowest basis of price.

AN OIL FOR EVERY FARM MACHINE.

For Gasoline Engines, Tractor, Auto or Stationary.

POLARINE OIL
STANDARD GAS ENGINE OIL

For Kerosene Engines, Tractor or Stationary.

POLARINE OIL HEAVY
IMPERIAL KEROSENE TRACTOR OIL

For Open Bearings of Farm Machinery.

PRAIRIE HARVESTER OIL
—very heavy body, resists cold, won't thin out with moisture.

ELDORADO CASTOR OIL
—a thick oil for worn and loose bearings.

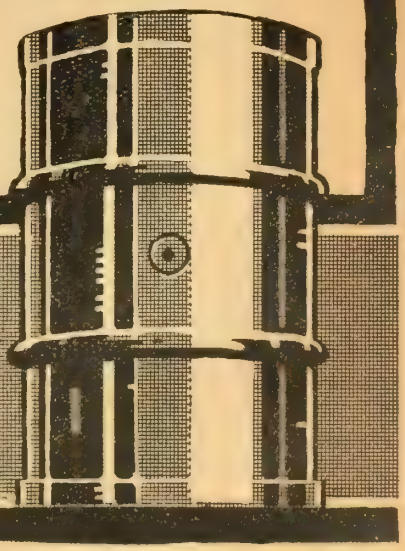
For Steam Cylinder Lubrication, whether Tractor or Stationary Type.

CAPITOL CYLINDER OIL
—the standard product for steam cylinder lubrication.

For Grease Cup Lubrication of Bearings.

THRESHER HARD OIL
—a clean, solidified oil, high melting point.

All our oils are supplied in steel barrels and steel half-barrels — convenient, economical. No waste. You use every drop you pay for.



The Imperial Oil Company Limited

BRANCHES THROUGHOUT CANADA

God's Green Country

A Tale of the Ups and Downs of Country Life

By ETHEL M. CHAPMAN

CHAPTER IX.

FROM the day when he took the farmers of his county to see how another man had harnessed the creek which ran wild through his pastures, setting it to work to cut the wood, and grind the grain and to run every hand machine from the fanning-mill to the grindstone, the Agricultural Representative began to see visions.

"Did you ever see anything like it?" one man exclaimed when they were going over the details afterwards. "There wasn't a darned crank on the place. The thing must do more than one man's work, and the most soul-aggravatin' part of the work at that. Now at our place there's just the boy and me to do everything, and we're prowlin' around the barn with a lantern till nine o'clock most nights. We get a man for a month or two sometimes, but the wife isn't strong and it makes more work for her. Besides, as wages go now it doesn't pay. I know Jim gets discouraged sometimes. He has a fair schooling and the wages he could get in town must look pretty good compared with what we turn in in actual cash from the farm; a boy doesn't see what capital's being laid away in the place every year. If he's half alive he knows he's living the best part of his life now; and he isn't going to waste it all laying up something for a time when he can't enjoy it.

"I've tried to keep Jim at home by giving him a calf or a colt once in a while, like my father used to do, but if a boy has to feed calves and curry colts long after the hour when every other working man has hung up his overalls, he gets sick of them. I never saw a boy sick of tinkerin' around a gasoline engine or a motor though. If Jim goes his mother and I might as well go too, and we're so used to old place now that I guess we'd never get over being homesick if we left it. I wish you'd come up and measure the flow of our creek."

Another evening one of the young men who had taken the junior farmers' course in the winter came into the agricultural office looking rather embarrassed.

"It's about the water-power," he began.

"Oh, yes," Billy encouraged. He wasn't thinking of much except water power these days and was glad of an opportunity to unload his enthusiasm. Besides, the boy had just commenced farming on a place of his own, and the agricultural advisor knew that young blood moves more quickly in adopting reforms. "I should think you'd have a pretty good force from that hill of yours," he said. "What did you think of doing?"

"Well, you see," the boy stammered, "it's like this. I ain't just sure what's the best way. I want to get married and I don't know what to do."

The Representative stared. He had had varied requests for advice since he came to stand for the Department of Agriculture in the community, but this was something new. Under his quizzical grin the boy reddened painfully. He had never seen the Representative's steady brown eyes hold such a glint of amusement, and he was afraid he was going to laugh.

"I'm sorry," Billy said without looking particularly sympathetic, "but I don't know much about it myself. It would just be a case of the blind leading the blind."

"Oh!" The boy began to grasp things, then he roared. "I guess you'll learn," he admitted dryly. "Leastways you don't strike the neighborhood up around 'The Heights' as one that wasn't interested."

Billy felt his own face warming up. "The Heights" was the section surrounding the Evison estate, and in his evening spins over the country roads he had often met his client jogging quietly along in a rubber-tired buggy, his feet stretched out comfortably on the dashboard and his interest, evidently very much absorbed in a white-robed presence beside him. Billy felt that they had a singularly common interest, and he shook hands with him across the table.

"Go ahead," he said. "What has the water-power to do with your case?"

"If you'd been down at our club meetings oftener this summer you'd have known I was keeping company with the schoolteacher."

There was an unmistakable pride in the confession. The school teacher evidently held a rather superior place in the social life of the neighborhood, and again Billy felt the nearness of a kindred interest. At the same time he interpreted something of reproach in the words "if you'd been down to our club meetings oftener. . . ."

Unfortunately the club met on Tuesday evenings and Miss Evison seemed to be free more often on Tuesday than on other nights of the week. Frequently when he was about ready to leave the office the 'phone would ring and the familiar flute-like voice would pipe, "I was afraid you might have gone. I meant to call all afternoon and had almost forgotten." Then the tone would drop almost to a whisper, "I'm afraid I've been very stingy of my time lately, but we'd have the whole evening to ourselves if you'd care to come to-night."

Once he had been obliged to tell her that this was the night when his Junior Farmers held their meeting and that he had almost promised to be there.

"I'm so sorry," she replied, with touching plaintiveness. "We're having a little euchre. Some friends from town have just dropped in. They're very informal, and I know you'd enjoy it. You couldn't leave your precious young farmers for just one night?"

"I've done that so many nights. Perhaps I could leave the meeting early and call on the way home?"

She was unmistakeably hurt.

"Oh, no, don't trouble," she answered quickly. "I wouldn't *think* of having you do such a thing. It doesn't matter. I just thought perhaps you'd *like* to come."

Another time he had asked her to come with him. It was an evening when girls attended.

"You know," she said, "it's very sweet of you to offer to take me right into your Holy-of-Holies to hear how they feed their calves and the like, but it would be casting your pearls before a very ungrateful little pig. I wouldn't enjoy it a bit. And I think, too, if you'll take an experienced person's advice, that you're getting too much of it yourself. Do you know that you've talked to me an hour now, about waterwheels?"

"I'm sorry."

"I like to hear about them, and what you're doing and everything, but don't you think if you work all day at that sort of thing, it's enough without running to meetings at night? It doesn't leave you any time for social interests at all. I'm sure you wouldn't have any trouble in getting into the Country Club, and the people there are so different. Most of the members are men and women of wide social experience."

Billy knew something of their social experience, but he didn't tell her. Neither did he make any effort to gain admittance to the club, but he did spend more evenings attending theatres and motoring excursions than was good for his Junior Farmers' Society. He felt that he deserved the unconscious reproof, "If you'd been at our meetings oftener," from this young man whose aspirations were, after all, so like his own. Evidently, however, his friend's efforts had accomplished something, while his case was as uncertain as ever.

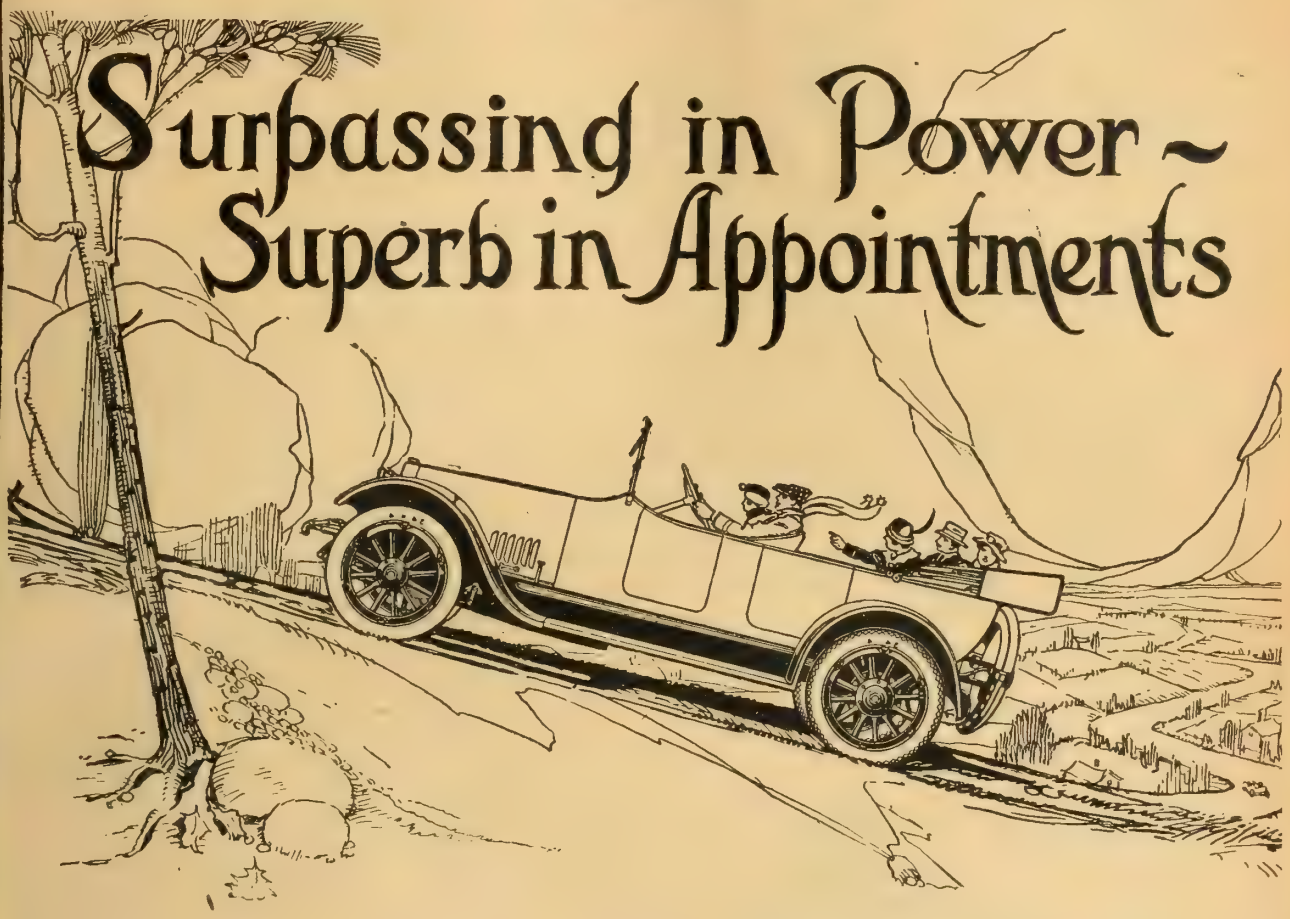
"You're going to marry the teacher, then?" he asked.

"Yes." There was no doubt about that. "She isn't afraid to go on a farm because she doesn't know anything about it. She'd always lived in town before she came here, but she's crazy about the country, and no gush about it either. She takes the kids to the woods and has them making gardens at the school, and all that. When I bought the farm every old wiseacre in the settlement came and said: "You're making a mistake. That girl's never done farm work and wouldn't stand it for a year. I could have wrung their necks. I didn't want to marry any girl to have her help to support the place. I thought I could make things so she wouldn't have to work any harder to take care of a home out here than she would in town. There was no person I could ask about it until you brought that girl out to the farm excursion. I didn't know what she'd think, but I didn't suppose I'd ever see her again, anyway, so I asked her if she thought a fellow had any right to take a girl who didn't know anything about farming out to a place like mine, and if she thought a farm house could be made just as comfortable and handy as a place in town. She's some girl, that. She never smiled, and she didn't seem surprised—she was a sight more considerate than some other people I know. She said that a girl worth having wouldn't be afraid to take a chance on a few hardships with a man, but that the work on an average farm with no conveniences at all was too hard for any woman. Then she showed how an ordinary house could be made a regular doves' nest for the price of an automobile."

Bill was thinking of his own inquiry on the way to the station. It struck him with a certain grim amusement that she would be rather impressed with the prevailing sentiment. And she had said:

McLAUGHLIN

Surpassing in Power ~ Superb in Appointments



Power, or the lack of it, makes or mars an automobile.
Power gives satisfaction, the lack of it, annoyance.
Canadian hills and highways are easily negotiated on high gear with the reserve power of the McLaughlin valve-in-head motor. This is due to the Valve-in-head principle of the McLaughlin motor construction, which develops from 15 to 25% more power than motors of other type of the same bore and stroke. In all the essential qualities of a good motor car—body construction, mechanical efficiency and appointments—the McLaughlin is equal to the best. In power it stands alone.

The New Series McLaughlin cars include 4 and 6 cylinder models in Touring, Roadster and Sedan types, at prices ranging from $910 to $2,350; a new 60 H.P. 6 cylinder 7 passenger McLaughlin at $1,900.
Send for our new catalogue "B" describing our complete line to

The McLAUGHLIN MOTOR CAR CO., Limited

OSHAWA, ONTARIO

SEE THE 1917 McLAUGHLIN MODELS AT THE NEAREST SHOW ROOMS

Branches in Leading Cities. Dealers Everywhere.

Canada's Standard Car

STAG

CHEWING TOBACCO

"Ever-lasting-ly Good"

Stands Supreme

above all other chewing tobaccos and was brought to perfection only after years of careful test and study

Sold Everywhere

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A Plug

"A girl worth having wouldn't be afraid to take a chance on a few hardships with a man." She hadn't told him that.

When he came out of his reverie the boy was still talking.

"So I thought if you'd come and measure the flow of the creek," he was saying, "I'd know what to do. If there isn't enough water power, I'll get a gasoline engine big enough to pump water for a bathroom and do the power work around the house, anyway."

A few other inquirers for power systems came in, but their motives were more purely economic. The labor problem was becoming more baffling every year; hired men were expensive, and they wouldn't stay. The water power, once installed, would cost nothing; it would would work all day and all year until the bed of the stream was worn level. Billy knew that once started the fever was bound to spread and he had visions.

When his car climbed the hills at sunrise, as it often did now that the work was pressing, with school fairs and marketing associations busy disposing of the year's harvests, he frequently saw a round-shouldered, blue-overalled boy, half awake, plodding out to the barn. He remembered well the sleepy stupidness, the torturing ache of the body weakened by the fever of growth, and stiffened by long hours of a man's work. Some day, he believed, every farm in the district would have mechanical power doing the heart-breaking drudgery which was making boys shiver at the thought of farming all their lives. Occasionally a woman coming from the barn with her milk-pails and a fretful little toddler or two tagging along after her would startle him with a crowd of memories, which he had been trying hard to forget. Whatever changes might come now, he would always have to remember that until he was old enough to do it himself, nothing had been done to make things easier for his mother. In the evenings when he drove home late and saw families still struggling with belated chores, he had a dream of a time when every farm would have regular hours, when the family would gather in the evenings not too tired to enjoy each other, when the mothers of the farms, famed in all history for giving the world its sturdiest, brainiest children, would have time to give their best to all their children, to put their best work on the black sheep, or misfits, or handicapped, or delicate ones, for whom there is little special provision in the country outside their own homes.

A speaker at a political meeting in the Town Hall had recently expressed something of the same ideas. "There is a movement for better things among the farmers' wives," he said. "The idea is finding recognition among them that all the prizes of progress are no longer to be allowed to go to the man-life on the farm while the woman-life is left to vegetate. The woman on the farm must bear the oncoming hosts of strong men, or they will not be borne. And unless the farm women can live under conditions which make for happiness, health and pride our whole nation will be weakened by ill-health, unhappiness, and unrest of the mothers and wives."

A few of the more adventurous women had accompanied their husbands to hear the speaker, but they gave little sign of their approval or disapproval of his sentiments. A week or two later Mrs. Burns called at the agricultural of-

fice to see if the representative would have time, with all the community water-power demands, to help do something for the children. Billy hoped he would have time. Recollections of certain experiences of his own childhood on the Swamp Farm had left his sympathies quick for any youngster suffering possibly some of the same tribulations. Yet he knew the homes in the neighborhood pretty well, and he knew that child-labor could not be called an evil of the section, except in the backward crevices of the hills, and in the best counties of the province there are "way-back" places where a lot of evils go unmolested. Even on one of the leading farms near the town where the children of the family were perhaps over cared for, there was a "Home-boy," stolid, stunted, stupid-looking, who couldn't talk plain, and who went around with his mouth open and a painful, bitter look about his eyes. Billy had misgivings as to how things were going with him. He felt ready to support any movement which Mrs. Burns might have in mind.

"You remember hearing that political speaker say that the woman on the farm gave the world its sturdiest children?" she began. "Well, after what I had seen in hospital work, and what I've seen right around home, I wondered. Last week we had a doctor talk to us at the Women's Institute, and he showed us that the tradition that children brought up in the country are healthier than children brought up in the city is all a lie. He showed us that while the death rate in the cities has been going down steadily for the last ten years, in the country it maintains a pretty straight line. The beginning of most of it starts with the children. In the country we don't go to doctors or dentists, or oculists until the case gets desperate; it's a good deal of trouble to go, and often the cost has to be considered. Most people have never been taught that "little" things like enlarged tonsils or bad teeth, can become very serious.

"I was in a house the other day when one of the girls came home from school crying with a tooth-ache. She had been suffering for weeks, but they said it was "only a first tooth, it would soon come out itself." She had never gone to a dentist in her life, and her front teeth were so crooked as to be a disfigurement. If something isn't done soon she will have to go through her whole life disfigured. It isn't fair.

"One of our neighbor's boys had always been considered stupid. The teachers didn't know what was wrong with him; he just didn't grasp things. He also made a great deal of amusement for the school by his awkwardness; he couldn't walk across the room without bumping into things. They have just by accident discovered that he's nearly blind. The oculist can do a good deal for him even yet, but he can never bring his sight back perfectly, and his school years have been wasted. That could have been prevented.

"In a garden in our little village at home, a young woman with a twisted back works all day with the flowers—they are the closest friends she has. I've noticed that she is always there in the morning and afternoon when the school children go past. They pick the flowers through the fence and go on unrebuked, and I've seen her stand watching them up the road, especially the little five-year-olds, with tears in her eyes and a look almost rebellious. She won't ever

Continued on page 48.

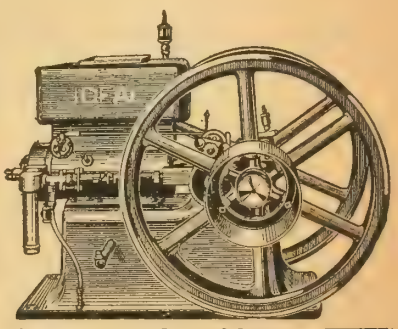
Getting the Best Out of It

The summer and fall months of the current year will be fateful months for the farmers of Canada. Prices are bound to be good. There is absolutely no fear of over-production. There is not a commodity that the farmer can produce that will not be in brisk demand at highly paying prices. The big thing that looms up is the absolute need there will be for all that the farm can supply. In any event, no matter upon whose banners the victory rests this year, the demand for food will be imperious. Not for another twelve-month at least will the armies now in Europe and Africa and Asia be disbanded. Still another twelve-month will elapse before these armies will be at work in field or factory. Meanwhile they and their dependents must be fed.

Corn in Saskatchewan

North-Western Dent corn is the favorite variety grown around North Battleford, Sask. Turnbull Bros. and S. A. Ferrie grow several acres each annually.

Protects You Against the High Cost of Gasoline



Our Hopper Cooled Design

We say to you—don't worry about gasoline costs—be independent of gasoline by using the BRANTFORD.

Now, a *Brantford* is different, it runs fine on gasoline—if you insist on using gasoline—BUT, here's the point—A *"Brantford"* will give dandy, dependable service and all-round satisfaction on COAL OIL or NAPTHA—and the saving made very quickly pays for your *Brantford.* The *Brantford* is a worker, not a shirker—it is a no-trouble engine and a dependable, all-round farm help. *Let the Brantford be your handy man.*

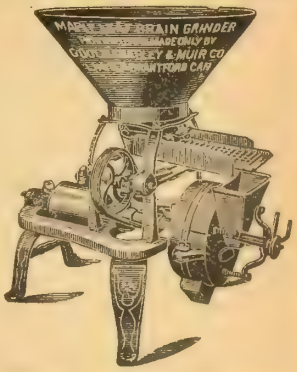
Our Portable, Stationary and Tractions have no equal for steady, reliable performance. THE BRANTFORD LINE is a dependable line. Each engine is guaranteed. Investigate "BRANTFORD" advantages.

The "BRANTFORD" Windmill

lives up to the "Brantford" reputation for absolute dependability and satisfaction.

"BRANTFORD" Feed Grinders

are genuine money-savers—they cut down feed expenses and give animals the full value from their feed.
The name BRANTFORD on any farm machinery is a guarantee of full value and trustworthiness.



Our Catalogue describes a number of machines that will help you solve your labor and farming problems, we have one for you. Write for it.

Goold, Shapley & Muir Co., Ltd.

Brantford Winnipeg Regina Calgary

"CHALLENGE" COLLARS

The Acme of Comfort is assured to every wearer of

"CHALLENGE"

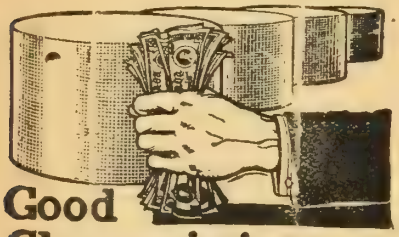
collars and cuffs
(Made in Canada)

They have the same dull finish, texture and fit as the best Linen collar, and won't wilt or crack. "Challenge" Collars can be cleaned with a rub from a wet cloth. Always smart, always dressy. If your dealer doesn't sell "Challenge" Brand, send us 25c for collar, or 50c for pair of cuffs. You'll be delighted.

New Style Book Sent Free on Request.

The Arlington Co. of Canada Limited
54-56 Fraser Ave., Toronto.

WATERPROOF



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Windsor Cheese Salt

Made in Canada

THE CANADIAN SALT CO. LIMITED

MEN WANTED

All classes of labor, skilled and unskilled. Steady work, good wages. Apply

COLLINGWOOD SHIP-BUILDING COMPANY, LIMITED

COLLINGWOOD - ONTARIO

have any children, you see. And it's all because no one noticed the curvature when it was just beginning and could have been straightened. She was sent to school to sit in the same old painful seat day after day so she might "pass the Entrance."

"Just one other case. On the farm next ours, a girl with brown eyes like a Madonna's, and the proverbial crown of red-gold hair, is suffering everything from the consciousness of a cruel disfigurement. When she was three years old an adenoid growth blocked the natural breathing passage, and the only thing left for her to do was to keep her mouth open and catch whatever air she could. Of course, the result was that the upper jaw narrowed and the teeth protruded, taking the character entirely away from the lower part of the face. She kept having colds, and became so deaf that when she was about grown up it was necessary to operate and remove the growth. Her hearing came back pretty well, but the natural lines of her face will never come back. An operation at the beginning would have changed her whole life.

"Now we want to have a doctor come and examine the children in the schools, and then if there's anything wrong we want to have a clinic and get them taken care of. We don't know just how to go about it. Will you help us?"

The Representative was not indifferent or pessimistic. He knew that other Women's Institutes had engineered Medical Examination campaigns in the public schools, that they had even held school clinics, and brought a surgeon to operate on the youngsters who needed it, and he knew that in some way the Department of Agriculture stood back of them in the undertaking. That was as far as his interest had gone. As for helping personally with the procedure, he would rather blunder into a hornets' nest than get mixed up in the detail of a women's organization. As usual, when he needed help, he thought of Ruth. She would understand just how to map out the whole campaign. She was working for the Department, and if Mrs. Burns would write, no doubt they would send her. Of course, he would be pleased to give any incidental help he could.

Ruth came and outlined the plan. The Institute would first have to get the school board's consent to let them go on with the work. Then they could get the local doctors to look the children over and see if there were any suffering from the troubles that could be remedied. If they could have a nurse to help with the inspection and to visit the homes in a neighborly way and report what the kiddies needed, so much the better. If they wanted to make the campaign of real, practical help, they could hold a clinic and have the children actually treated.

It was well on in December before the clinic could be arranged, and the general excitement kept the telephones busy and caused considerable delay in picking the geese for the Christmas market. Mrs. Burns had offered to turn her house into a hospital for the day and other members of the Institute were contributing supplies of sheets and towels for the occasion. Mrs. Evison had dropped in at an Institute meeting to express her delighted approval of the plan and to say that her daughter would be pleased to drive their car all day, if necessary, to fetch the children to and from the clinic. Billy placed the Department of Agriculture's car at their service, praying in secret that they wouldn't send him out alone with any of the patients. A surgeon, young, but notoriously successful, was being brought from the city, and Ruth was coming to help.

On the evening before the day of the clinic, when Billy was driving home, he overtook the "Home boy" trudging up to the village to get what little social color he could from the gossip of the regular store roosters. He climbed into the car with his accustomed sullenness—or what was generally considered sullenness. Billy knew it was only a painful self-consciousness dulled a little by dragging dog-tiredness. He was breathing audibly through his distorted mouth, and his deafness gave a stupid look to his face.

"Why don't you come up to our Junior Farmers' meetings?" the Representative began.

The boy didn't look up.

"They ain't for the likes of me," he said.

"Of course they are," the Representative declared, warmly. "What do you mean?"

"Oh, I don't mean that your fellows are snobs," the boy admitted, "but there's a difference, and you know it. They're used to being out. They can make speeches and talk, and me—I can't talk."

Billy had never realized before how the boy's pride had suffered through his affliction. He wondered if the school clinic would admit him; or, what would be more difficult, whether he could persuade him to go. He made the proposition as tactfully as he could.

"I don't belong there, neither," the boy replied. "I've never gone to school, and, anyway, I ain't in the same class. I don't know any of the folks except the men I meet at threshin's. Jim that come out here the same time I did, it's different with him. At the place where he works, they don't make much difference by him. But the folks at the Home thinks if they once gets us out to what they call the 'green country,' they've sort of landed us in 'eaven. Men send in for 'a boy to do chores,' but we know it's a hired man they want. 'Course it's different with Jim, but then I'm different to Jim. If you can't talk an' you can't hear, an' your mouth hangs open, you can't expect folks to want you around more-n-s necessary."

Billy had never tried so hard to argue anyone out of a mistaken idea. His own experience had given him an insight into a boy's sensitiveness at the time when life is opening a strange world to him, and he needs a confidant, and he had not forgotten how the "Representative" in his county at home had given him confidence. He determined to stay right with this boy until he saw him past the turning-place. When he let him out of the car at the store rendezvous, he urged:

"Now, you'll come to-morrow and let them fix you up? I'll go with you."

The boy eyed him shrewdly for a minute, then his face softened.

"I guess you're all right," he conceded. "I guess you wouldn't take it any trouble, but that's not sayin' what the others 'ud think. "I'll think it over; If I can bring myself to it, I'll call in an' tell you before I go back."

In the office Billy sorted over his mail, and pushed it away. Some of the letters dealt with marketing news that meant hundreds of dollars gain or loss to the community; one carried a promise of a co-operative creamery that had been one

of his main ambitions for the district—but these things didn't seem so important to-night. If the clinic to-morrow could remove one boy's handicap and give him the chance for life that Nature meant him to have, it would be worth more than several reforms for more profitable farming. If he were not taken care of now the chances were that he would never be. He decided to walk over to the store and make sure of seeing him before he went home. Then the phone called him.

"Oh, you *are* there at last!" It was the soft little purring tone that always set his pulses pounding. "Could you possibly run up for a little while?"

"I'm afraid—" he began.

"But listen," she interrupted. "I'm going to help you to-morrow, you know, and mother and I have some plans we'd like to talk over with you. We're delighted that you're having such a distinguished surgeon as Dr. Knight. It's really very unusual for him to go out of the city at all, and we thought you wouldn't want him to go to the Village Inn — it's quite impossible, you know, so mother thought you'd better have him come here. Dad has met him, I think, and we'd be glad to have him. Perhaps Miss McDonald would come, too, though she's so used to going to all sorts of places."

"All right," he agreed, absently. "And you're going to help" — that was the thing that impressed him. "That's fine."

"I'm going to drive the car all day," she announced, emphatically.

"That's fine," he said again. At last she was interested. Of course, she couldn't resist the children—she was such a feminine bit of creation.

"And I know you're going to say you have some state council or something, on to-night," she rattled along; then dropping her voice appealingly, "I know I'm an awful nuisance, that I'm just hindering you all the time, but I *do* want you to-night. Was it anything important?"

"Why, I wanted to see the boy who works at McGill's. I was wondering if we could get him into the clinic to-morrow."

"Oh, I'm *sure* we could. I'll get Mother to speak for him. I'm so glad, it was nothing urgent. I'll expect you then. You'll hurry?"

Billy didn't exactly hurry. He walked up and down the office a few times, looking more like swearing than his friends would have thought posible. Then he remembers the confession, "I know I'm just hindering your work all the time." Now, when she was beginning to be interested, to even try to help, he was losing his temper over having a plan of his own upset. He got ready to go—which took some time—and on the way out he called at the store. They told him the boy had gone.

When Billy drove his ambulance out to the Burns farm the next morning and carried a little blanket-wrapped patient into the house, he found Ruth already there. She was bending over a cot, evidently trying to restore courage to a brave little fellow who was having a hard struggle to keep the corners of his mouth from going down. The child said something at last and her head went down beside him on the pillow. There was an unsteady little gurgle of a laugh so low and deep and comrady that it made him shiver a little. He had heard the little sob catch at the end of it and he was aware that it meant a good deal. When she looked up and saw him she

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colored warmly, then came straight to meet him in her frank, friendly way, but he thought she left him very soon to go back to her work. He would have liked to stay and watch her putting the children to bed. There was something so strong and natural in the way she lifted them up; something so clever and steady in her supple hands—you could almost feel the touch to watch them; something so close and reassuring in the way she held the nervous ones. But his presence seemed to embarrass her, so he went away.

He didn't see her again until evening. He had finished his part of the day's programme, and had helped the doctor to pack away in the long, deep-purring Evison car the patients who required the easiest riding. He had never known Marjorie to be so adorable. She was unnecessarily solicitous of the comfort of the children and she took orders from the doctor with a demure seriousness that was most becoming. When he tucked the rugs about her before she started off with her last convoy, she leaned down and whispered: "We're expecting you for dinner. You'll bring the doctor—and Miss McDonald, if she'll come?"

As she bent over the wheel in her red motor outfit with the wind whipping a bright color in her cheeks and her eyes dark and glowing she reminded him of a brilliant scarlet tanager. It was unreasonable, he reflected, to expect a girl like that to conform to standards set for ordinary individuals. Her heart was in the right place, however irresponsible she might seem sometimes. How thoughtful she had been for the children.

In the house the women were clearing away the litter from the day's work. Ruth was still busy. Her white uniform had lost some of its crispness; her face was flushed and tired looking. She was testing the heat of some irons on the stove when Billy came in.

"Are you nearly through?" he asked. "Is there anything I can do? I want to take you up to Evison's for dinner."

"I'm sorry," she said, "but we've just had another patient come in. The doctor's operating now."

"And what are you going to do?"

"Iron his bed."

He smiled to think she knew the homely trick, then a sharp pained look cross his face. "My mother used to do that," he said.

She put the iron down and looked at him just as she had done when she followed him home from his mother's funeral and heard him sob out his agony for the things he couldn't help.

"I know," she said, quietly. "She did it for me once, too. I don't wonder that you remember how good she was."

The little worried wrinkle had gone from between her eyes. In some inexplicable way she seemed to be getting across to him the warmth of her sympathy, and he felt, for the first time, the full wonder of it. What a richness would be there for some man to explore, and how blind and ungrateful he had been all along. He had never done anything but go to her for help. Even now she looked tired enough to go into hysterics instead of troubling to think about him, and he felt that he had been nothing less than brutal. She was gathering up her irons.

"When you get that done will you come?" he begged. "We'll drive around for awhile till you get rid of the ether

you've been breathing all day. I didn't think what I was getting you into."

"But you see, it's a pretty bad case, and I'm going to stay all night with the boy."

"Why can't some of his own people stay?"

"He hasn't any people, nor, evidently, any friends. He's a boy from the Home who works somewhere around. He came in alone, at the last minute, and you could see it had been pretty hard for him. We want to make it as easy as we can."

She went away smiling and Billy went out bitterly ashamed of himself. It had been hard for the boy to come and he hadn't done anything to help him.

An hour later the doctor came out.

"I suppose we're late," he grumbled. "I don't know whether to curse that girl or go down on my knees and worship her. I'd had about enough bad tonsils to-day without this last case, and there was no reason under the sun why we should take an outsider like that into a school clinic, but she held me right to it. Now she's going to see him through the night."

The evening at Evison's held a new atmosphere for Billy. The elegant luxury of the place seemed very restful after the crowded confusion of the Burns home. Marjorie was unusually quiet and sweet and dignified. She seemed even a little shy in the presence of the notorious surgeon, listening with charming attention to all he said, but saying little herself. However, the men talked, and they talked to her and for her—Billy with his usual sincere interest, the doctor with his clever way of unconsciously saying the most complimentary things. It was quite possible that he had said them before, of course, and quite probable that he would say them again and keep right on saying them so long as people with grown-up daughters continued to shower him with their hospitality. Several times she caught Billy watching her with the sober tenderness that he always dropped apologetically when she looked, but the doctor looked her over with a daring admiration that might mean anything or nothing. It was splendid to have Billy there because whatever the doctor's attitude might be, he couldn't help seeing that another man—a rather exceptional man, too, was in earnest—and that meant a great deal for a girl sometimes. Altogether, she felt that she was being a great success.

Marjorie had an idea that men, at least men with a reputation, liked to talk about themselves, and under cover of the general table conversation, she confided to Dr. Knight that she thought it was *wonderful* to be able to do so much for people, especially for "the little children." "When I see other people doing things like that, I just wonder what I'm living for," she confessed, gravely, as though she had just been awakened to the responsibility of existence through his greatness. "It's simply unbearable to see people suffer and do nothing to help them—especially the babies. Don't you think it's rather hard to be a girl?"

"What about training for a nurse?" he suggested practically.

She hadn't expected anything like that, and she thought it was scarcely kind of him. She looked appealingly at her mother.

"I guess Marjorie's a home girl," the mother explained, smiling with indul-

Continued on page 54.

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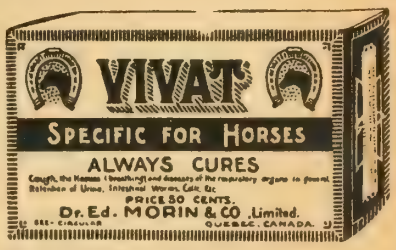

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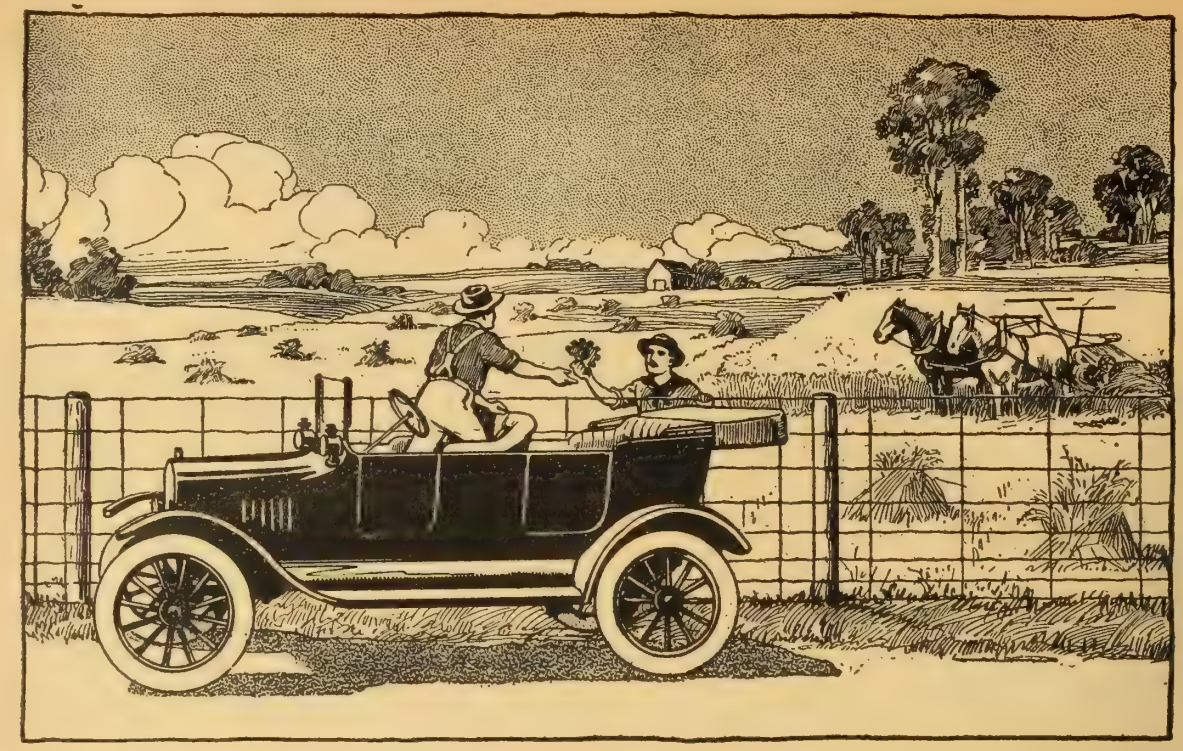

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What Happened to an Old Farm

Showing How a City Man and Woman Became Back-to-the-landers

By EDGAR L. VINCENT

V.

NEW FIELDS OUT OF OLD ONES.

THE backbone of a dairy farm is the pasture. Realizing this we began very soon after coming on the farm to make our pastures better. I never enjoyed myself more at anything than I did while I was clearing up an old slashing of three or four acres. I did a good share of the work myself, cutting up the old logs which were lying on the ground and getting them into piles to dry and be burned, and taking out such stumps as I could. Something about the smell of the earth and the burning wood put new life into me. We had a great day, Laddie and I, when we burned off the heaps of logs and the brush. It was a hot day, with little breeze, and the sweat just rolled down our faces. We knew there was some danger of the fire spreading to the adjoining woods, so we had some cans of water on the spot ready for use if need be. We got along first rate, however, and had no trouble keeping the flames within bounds. That gave us so much more fine pasture.

On other parts of the pasture, elder-berry brush had for many years been permited to grow until some of the bushes were as large as one's wrist. So thickly did these grow that the cattle could not get much to eat where they grew. I never knew anything about such a job, but I ground up the bush hook and scythe and tackled the job just as if I had been to the manner born. After the brush had been piled and burned off, I plowed the field. That was ten times as hard work as chopping the bushes. Have you ever tried to dig up an elder-berry bush? If you have, you know something about the roots they have. Seems to me now some of them ran out ten feet from the trunk, and what a grip they have on the earth, too! I had to hitch a horse to some of them in order to get them out at all; but they had to come. I had a fine piece of buckwheat there first and then as nice a field of corn as you ever saw. Following this I had oats with a seeding of clover and timothy. Now where the cows scarcely dared to stick their noses we have beautiful pasture land.

CLOVER COMES AFTER CLEARING.

Still another field which had grown up to brush and saplings was cleared off and turned into pasture. I did not plow that land, but it came in to lovely clover. I do not know where the seed came from. Certainly none had ever been sowed there, so far as I could find out. But how the sheep did enjoy that fine, sweet white clover! So we have gradually cleared up one field after another, until we have greatly improved the value of our pasture land. Not that it is all as it should be. Much must still be done, but we have done something.

In the meadows, too, we have made some desirable changes, in the way of picking up stone and getting out some veteran stumps that had been plowed around nobody knows how long. Many of the inside fences have been taken out or replaced by wire fencing. One of our greatest problems has been how to build fences that will last as long as it takes to build them. Rail fences are out of the question now. The same may be said about board fences. We are driven to wire, and it seems almost impossible to get wire that will not rust out in a very few years. And here is a nudge in the ribs of the men who make this necessary article of farm equipment: Make your fencing better, men. It will pay you and certainly it will be to the advantage of the farmer folks.

The fashion of farming has changed very much in the past quarter of a century. We are using more commercial fertilizer and lime: our crop rotations are getting shorter, so that now we plow under grass that would turn two tons to the acre, instead of waiting until there is not green stuff enough in sight to make a bird's nest: we are more and more coming to see that we must constantly feed our farms if we expect them to feed us, and we are relying to a greater extent upon the keeping of stock, especially cows, for our best form of farm fertility.

GETTING 3 TONS FOR 1.

On pieces of land where I used to cut a ton to the acre of a poor quality of timothy hay, I am now getting three times that quantity, and of a far better quality. A good deal of this we owe to the liberal use of lime. I used to have to buy some hay to get through the winter with when we began with the farm. I thought it better to do that than to cut off the head of the golden goose by selling off the cows. Many kinds of fertilizer are all right; so is lime, but the basis of real farm fertility is the droppings from the stable. They are made of vegetable matter; they go back to add that mysterious thing some folks call "humus" to the soil. When I write my book on farming I am going to say rotted vegetable matter when I want to speak of humus. That is what it is, and nothing more nor less. Plain words are best.

Our land always did grow good corn, but we are getting the hang of it so that we can do better than we used to. When we planted our first crop, I plowed under the barnyard manure. My neighbors had already spead it on the top of the ground and they thought I was throwing away time and fertilizer by burying it way down in the earth. The corn roots did not think so, however. They just grabbed on to the manure when they needed it to mature the ears and boosted our crop out of sight of any in the neighborhood. That set people to thinking and now they plow the fertilizer under for corn. Some satisfaction in seeing one's methods adopted, especially where they work to such good advantage to everybody.

The first year we were on the farm I set out a little orchard of fifty trees. It was

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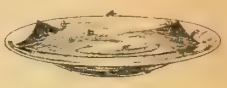

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a warm May day when this work was done, with a little drizzle of rain. I dug the holes, Laddie held up the little trees and together we pulled the moist earth about the roots and trunk. We had the pleasure of seeing every single one of those trees live and grow to fruit bearing. The same is true of some raspberry and strawberry plants we set out. And we certainly did enjoy these small fruits. Strawberries especially used to just about kill me every time I ate them when we bought them from the store; but after we had them of our own I could eat my fill and not a bit of trouble. Often wife would have them for supper and then before bedtime I would go out into the garden and pick them right off the plants and go to bed and sleep like a top. In fact, my old enemy dyspepsia had taken to the woods and left me to the greatest enjoyment I ever knew in all my life. I was stout as an ox and could hold my own with any man of our acquaintance. The fellows in the office who saw me go staggering out of the building after I resigned would no longer have known me. And we were all a healthy, hearty set at "Clover Leaf Farm," which was the name we chose for our place. It has been a four-leaf clover, too.

To be Continued.

The Country Home Wedding

OF all the weddings I have attended in city and country, among the rich and those in moderate circumstances, occasions that stand out vividly in my memory are not the conventional "functions," but rather those ceremonies into which had been put a touch of thoughtfulness, of originality, something of family tradition or the striking personalities of the two whose lives were to be welded into one, writes Fanny Warren Jaynes, in *Farmer's Wife.*

Instinctively young lovers secretly wish that they might slip into the nearest parsonage just by themselves and have a quiet ceremony; but realizing that this would mean a real hurt to their dear ones, they often go to the other extreme and permit an excessively complex or fashionable affair.

If you are so fortunate as to live in a country place, why not waive the formality of engraved invitations? Several girls I know have informally "passed the word around;" in one instance, by a simple announcement from the pulpit, and in another by "word of mouth" from neighbor to neighbor, that all would be welcome to the ceremony. Thus they were certain that there would be no one slighted while at the same time, no one would feel obliged to give presents.

One girl who had always been an unusually devoted daughter planned her wedding procession to include both father and mother. Preceded by a bevy of bridesmaids, the bride was escorted up the aisle by her only sister, her father and mother following together, to "give her away" at the altar. The presence of the white-haired mother added the crowning touch of dignity and love and caused many married young women present to wish they had shown similar tenderness in their wedding arrangements.

A country girl who had the natural and commendable desire to have all her friends and relatives present at her marriage was perturbed at the choice of a place for the ceremony. Her home was too small; the church was distant and suggested formalities and expenses beyond her purse.

"But there is all outdoors," she thought, "why not be married there?"

In spite of the fears of her old-fashioned relatives, who had "never heard of such a thing," she plighted her troth under a stately elm. In the sweet silence touched only by rustling leaves and the song of birds, with blue sky and sunshine over all, the service was singularly beautiful and impressive.

Such out-of-doors ceremonies are nowadays becoming more popular, and if you are considering such a plan, include as an added inducement, the presence of a friendly camera. No beautifully posed later pictures can ever mean as much to you as those made possible by the presence of the sun on "the" day; such snap-shots as the Happy Recessional. Holding the Fluttering Ribbons,

—*Photo by J. G. Dickson.*

A Picturesque Dovecote near Galt, Ont.

Catching the Bouquet, Among Those Present, The Bridesmaids Plotting, or, perhaps A Stolen Interview between Bride and Groom, you will always cherish among your chief treasures.

I hardly need mention the bride and groom who doffed satin gown and evening suit to ride romantically away into the moonlight, or the pair who motored to the remote little country home put at their disposal by a friend; for such honeymoons are happily no longer uncommon.

I commend to future brides two ceremonies into which were brought a sweet symbolism and a true reverence for the past. In one instance, the bride-to-be sent to her grandmother's, three thousand miles away, for a hand-made rug patiently wrought of tiny pieces, in the soft old colors, by an honored ancestor one hundred years before. This she used as a prayer rug, and it seemed that there must have been there a spirit of inanimate things that would remain with them and that the young pair must be the better fitted for life, in patience and all the domestic virtues, for kneeling there.

In the early case, at the close of the simple home wedding, bride and groom knelt upon their hearthstone and together lighted the sacred and eternal household fire. For kindling, they had obtained from their ancestral homes, dried pine boughs and everlasting, symbols of strength, sweetness, and constancy. As the flame rose heavenward, it seemed like an added and fervent supplication for blessings upon the new home and upon the young husband and wife who knelt there.

God's Green Country

Continued from page 51.

gent pride at her daughter. "And, of course her father wouldn't think of letting her go away from home. She was at College two years ago studying domestic science and she did enjoy that so much, but we were completely lost without her. I guess we're rather selfish."

And the men both smiled across at her with the masculine equivalent for her mother's expression. She had always found it most gratifying to be admired by two men at the same time.

Of course she was "a home girl," Billy thought, as he drove home. Every little grace of her feminine personality proclaimed her made to be taken care of, and how proud of her a man would be. He imagined with some anxiety how hard it would go with her if she ever came to a place where she wouldn't have the consideration they gave her at home, and he found himself wondering just what manner of man this Dr. Knight was, apart from his profession. When he had left them he was turning her music and he had never known her to be so generous with her playing. He wouldn't admit that he was jealous, but one of those proverbial little clouds the size of a man's hand seemed to be threatening his skies.

When he passed the Burns house he saw a dim light in an upstairs window and was reminded bitterly again of his neglect of the Home boy. However, Ruth would take care of him. He could see her shadow moving against the blind now, and he thought how tired she must be. He didn't know that her tiredness had gone, leaving something infinitely more painful in its place.

Under the anesthetic the boy had mumbled something about the "agricultural man" who had told him to come.

"Mr. Withers takes an interest in everything," Mrs. Burns had remarked. "He's an exceptionally fine young man.

Continued on page 56.

DELCO-LIGHT

ELECTRICITY FOR EVERY FARM

Brings You Electric Light

A self-contained, compact, efficient electric plant! That can be had in the Delco-Light plant—safe, durable, reliable.

A wonderfully simple equipment—a compact, sturdy gasoline engine, generator, switchboard and storage batteries. Easy to understand, easy to operate. Children are looking after Delco-Light plants to-day.

You can rely on Delco-Light giving you the utmost services that electricity offers—brilliant, safe, clean electric light, convenient, cheap electric power.

It provides current that will flood with light every room in your house, the barns and sheds, outdoors. No more drudgery or time wasted in cleaning, filling and lighting smoky oil lamps.

It provides power that will do mechanically all the milking, separating, churning, washing, water-pumping, feed-cutting.

Small, compact, sturdy—it starts on the pressing of a lever. Stops automatically when batteries are fully charged. Engine is air-cooled—cannot freeze anywhere.

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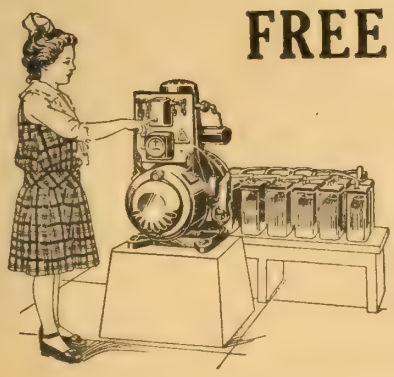
No complicated details about the Delco-Light plant—no big upkeep costs. Lights the average home for less than five cents a day. Saves hours of time spent on chores and housework because of the better, more convenient light it gives. Allowing only 10c. an hour for labor on your farm it will save you at least $127.40 each year. It earns its way, by saving hours of time and labor.

The Useful Power Stand

A portable, efficient, sturdy motor can be had with the Delco-Light. Runs from the nearest light socket. Carry it anywhere—it will drive all your light machinery. Uses up very little current.



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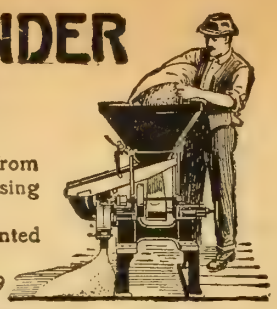
A TORONTO GRINDER

on your floor will save you time spent in teaming grists



ensure perfect digestion and more feeding value from your grain—and prevent live weed seeds from passing through into the manure.

Low-down construction, weight, strength, patented feed and plate control and relief springs ensure fast, even grinding and long wear. 19

Ontario Wind Engine and Pump Co. Limited
Dept. "M"
TORONTO and MONTREAL.

Weak From Birth

Harriston (Ont.) Child Saved by Dr. Cassell's Tablets.

MR. CORBY, HARRISTON P.O., ONT., writes:—"Just a few lines in praise of Dr. Cassell's Tablets. Our little girl was weak from birth, and though we tried doctor's medicine and other things she got no better. She just lay in her cot and cried, and neighbours all said we could not save her. Then I read about Dr. Cassell's Tablets. I said to my wife, 'while there's life there's hope'; we will try these Tablets. We did, and from the first box we could see a change in the child. She seemed to rest more comfortably, and slept well at night. We kept on giving Dr. Cassell's Tablets till she was 18 months old, and now at three years I don't think there can be a healthier child in the whole Dominion.

Little Miss Corby.

The doctors said she had stomach trouble, and that her chances were small, yet Dr. Cassell's Tablets cured her. They have been worth their weight in gold to us, for we were just giving up hope of saving our little daughter. I don't think there is any other medicine for children like Dr. Cassell's Tablets. I may say my wife has taken them for nerves, and they have built her up splendidly. Publish this letter if you like; it may help others as the Tablets helped us."

Bright, healthy, happy children, full of life and activity—every mother wants her babies' to be like that. Are yours? If they are not, if they are weakly or fretful—we say it in all sincerity—the surest way you will ever find to build up strength and vitality in their little frames is a course of Dr. Cassell's Tablets.

Dr. Cassell's Tablets

FREE SAMPLE.
On receipt of 5 cents to cover mailing and packing, a generous free sample will be sent at once. Address: Harold F. Ritchie & Co., Ltd., 10, McCaul-street, Toronto.

Dr. Cassell's Tablets are Nutritive, Restorative, Alterative, and Anti-Spasmodic, and the recognised remedy for

Nervous Breakdown	Sleeplessness	Mal-nutrition
Nerve Paralysis	Anæmia	Wasting Diseases
Infantile Weakness	Kidney Trouble	Palpitation
Neurasthenia	Dyspepsia	Vital Exhaustion

Specially valuable for nursing mothers and during the Critical Periods of life.

Sold by Druggists and Storekeepers throughout Canada. Prices: One tube, 50 cents; six tubes for the price of five. War tax, 2 cents per tube extra.

Sole Proprietors: Dr. Cassell's Co., Ltd., Manchester, Eng.

There's just one thing that's spoiling his work a little. He's very much in love with Miss Evison. You can imagine how seriously he would take anything like that, and it interferes with his work sometimes."

It was then that Ruth forgot her tiredness. She only ached for her own room at home where she could be alone for a while.

To be Continued.

Something More Than Form

Nature rules supreme and seems oftimes in this matter of breeding dairy cattle to take especial delight in upsetting the ideas of men. We have been worshippers at the shrine of form in our striving to perpetuate and increase the dairy capacity of our cows, says *Hoard's Dairyman*, editorially.

These thoughts came to us as we looked upon the picture of that great Guernsey sire, Governor of the Chene 1297 P. S. This bull is the sire of 60 A. R. cows and 15 A. R. bulls. He is fairly well formed, though not in that particular superior to thousands of other bulls of this breed. We are impressed, however, as we look at him with a sense of his superior masculinity and strength of character as a bull, as well as great strength of physical constitution.

But many other bulls have impressed us in the same, and even to a greater degree, but time proved that they did not possess his innate power to convey eminent dairy qualities to their offspring. Many thousands of dollars have been paid for bulls of faultless breeding and form only to find in the end that they were failures in special prepotency. And so we must confess that this power of conveyance we all prize so much and which is the chief consideration when we select a sire, cannot be measured and depended upon through any known outward signs.

Some men possess superior capacity to see it and closely guess as to its existence. We only know of it through the progeny. The scales and the Babcock test must finally put their stamp of approval upon the sire in determining his prepotency. We may like this or that as outline indications, but essentially we know nothing until the offspring of the sire proclaim his quality.

Varieties of Strawberries.

Strawberry varieties differ very much for the various sections. Growers in the Clarkson district raise the Glen Mary almost exclusively, while in Prince Edward County the Senator Dunlop is the leading berry. Around Burlington and in many other parts of the Niagara district the Williams is the great cropper.

Considerable difference of opinion prevails over the Williams. W. F. Kydd, of the Department of Agriculture, strongly advised growers to forsake the Williams, especially for table use in the cities, as the green tip and core are objectionable. On the other hand, H. T. Foster, of Burlington, claims with many others that it is the growers' best money maker.

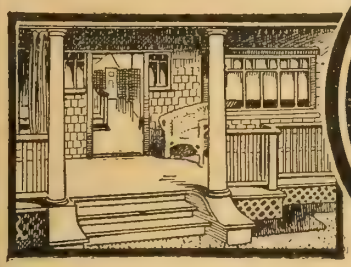
A son of the late Robt. Thompson, of St. Catharines, finds that the Glen Mary goes down in shipments and is not so satisfactory in processing.

A Tribute to Lincoln

Col. Watterson, the veteran Democratic editor of the Southern States, says he was inspired.

Born as lowly as the Son of God, in a hovel; reared in penury, squalor, with no gleam of light nor fair surrounding; without external graces, actual or acquired; without name or fame or official training; it was reserved for this strange being, late in life, to be snatched from obscurity, raised to supreme command at a supreme moment, and intrusted with the destiny of a nation.

The great leaders of his party, the most experienced and accomplished public men of the time, were made to stand aside; were sent to the rear, whilst this fantastic figure was led by unseen hands to the front and given the reins of power. It is immaterial whether we were for him, or against him; where he came from, whether from the North or the South. That during four years, carrying with them such a weight of responsibility as the world never witnessed before, he filled the vast space allotted him in the eyes of mankind is to say that he was inspired of God, for nowhere else could he have acquired the wisdom and the virtue.



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Cover the scars of wear and tear on walls and floors and furniture.

A wall re-tinted—a floor varnished—a hall painted—a chair or dining room set re-stained—the whole house made fresh and bright, spic and span. There are

SPIC AND SPAN FINISHES

for every surface—for everything you want to "do over".

"NEU-TONE"—the washable sanitary, soft tone Wall Finish, in pleasing tints.

"WOOD-LAC" Stains make soft wood look like expensive Mahogany, Walnut, etc.

"MARBLE-ITE" Floor Varnish—for hardwood floors. Won't mar or turn white.

"LIQUID WAX"—for floors. Easily applied, Dries hard, Shines easily.

"SENOUR'S FLOOR PAINT"—the hard-drying paint for the floor that wears, and wears, and wears.

"VARNOLEUM" brightens up and protects Oil Cloth and Linoleum.

These Finishes have proved their worth and wear and economy in a great many homes. We have handled them for years and can guarantee results

FRUIT JAR LABELS FREE—a handy book of them—printed in colors and ready gummed, given away. Write for them. 104

The MARTIN-SENOUR Co.
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GREENSHIELDS AVENUE, MONTREAL.

A PAYING INVESTMENT FOR WINTER MONTHS

It costs you nothing to consult us as to the advantages of having a Greenhouse on the Farm. Write Dept. M., stating your requirements and we will gladly furnish you with costs, etc. All information FREE.

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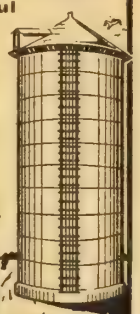
Sweet Fresh Ensilage
down to the last forkful



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because he got better results with half the labor and in half the time it used to take him to whitewash and disinfect his stables, poultry houses, dairy, etc. He used

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A finely powdered mineral pigment combined with a germicide 20 times stronger than pure carbolic acid, but absolutely non-poisonous.
Disinfects and paints at one operation.
Will not harm man, beast or fowl, or blister, flake or peel off. Is ready to apply as soon as mixed with cold water—no waiting, straining or bother as with whitewash. No disagreeable odor. Put on with brush or sprayer. Endorsed by experiment stations and poultry, dairy and breeding farms.
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10 lbs. (10 gallons), $1.25 at Toronto.
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Horticulture and Gardening

Home Conservation of Garden Products

THE extraordinary advance in price of all canned, and southern fresh vegetables, compels attention to the fact that we can no longer afford the usual annual waste of succulent garden stuff to occur; we no longer can lull the conscience with "It's cheaper to buy" with onions and cabbage, fresh, selling at 15c the pound, and canned corn at an advance of 50 per cent. retail, other vegetables in like ascendency.

Last year the Department of Agriculture, at Washington, D.C., sent Mrs. Addie Snyder, an expert in the art of home canning vegetables, to demonstrate throughout the country the ease and thrift of storing by means of canning the garden surplus.

Notice was given that upon a certain day and hour she would be at our school house with canning outfit and would there prepare and can any article from the garden that we would bring. There were peas, string beans, and sweet corn presented for the purpose. Each woman bringing her own jar. These were the ordinary screw top type of glass jar with rubber ring, and mostly one pint capacity.

She proceeded in the following manner: Sweet corn on the cob was plunged into a kettle of rapidly boiling water and parboiled for 5 minutes, then cold dipped. Corn was first freed of husks and silk, and enough to fill the jar put in a square of cheese cloth, the four corners securely knotted. By this means the corn is easily transferred from the hot to cold plunge. A wire basket would be as effective and certainly less bother for corn, although it could not be used for shelled peas.

Corn was cold dipped for but a moment. The action of the boiling water is to draw out the taste known as "flat sour," and the immediate chilling by cold dipping so shocks the bacteria that it does not then survive the second dipping.

Out of the cold dip the corn was at once cut from the cob, taking but half the depth of grain, then turning dull edge of knife, the remainder was pressed out, thus avoiding any of the harder substance near the cob.

The jar was packed to the neck, only sufficient salt being added to make it palatable. Boiling water was poured on to fill all the spaces. Rubber and lid were now adjusted, the lid tightened as much as possible by using only thumb and little finger, the demonstrator saying it is impossible for anyone to obtain a perfect seal by this means. The jar was at once placed in the boiler and the work of sterilization begun. She used a steam pressure boiler, which quickens the process, but otherwise is not more effective than a deep kettle or wash-boiler with a tight-fitting cover, and a false bottom provided to protect the cans. This false bottom may be of ordinary wood slats, or I have found two large tin pot lids to serve this purpose in the wash boiler, and a single lid about one inch less in diameter than the deep kettle. These lids, having raised rings around them at intervals, do not permit the water to be shut out below them.

Glass jars may be placed snug against each other, and if heat is applied gradually, they will not break, if of standard quality.

In the pressure boiler 35 minutes was given as ample time for sterilization of corn, peas and other vegetables, the pressure being 15 pounds throughout the process. In using a covered kettle without pressure gauge and provision to hold the steam, corn, etc., must remain in rapidly boiling water 3½ hours. With steam pressure the contents were so very hot that it continued to boil long after jars had been removed. Care was taken to prevent draughts of air from striking the hot jars—or they will surely crack. As soon as jars are lifted from the boiler the lids must be screwed tightly in place. If from any cause the rubber does not remain in condition to make a perfect seal, the cap must be lifted and placed inverted on a table or the range and a new rubber adjusted quickly; then jar must be sealed with but thumb and little finger as before cooking, then returned to steamer for a few minutes—fifteen at most—then lifted and screwed down air-tight.

Green beans are so nice canned by the same process. String and cut them into even length, if you wish, par-boil for 5 minutes, cold dip, then pack in glass jars, pour boiling water over to reach to the neck of jar—adjust lid and rubber as for corn and finish the process the same.

Peas, beets, asparagus, cauliflower, peppers, sweet potatoes, pumpkin, old-fashioned lye hominy, anything that grows in the garden that we cook before we eat and cannot hold otherwise, is economically preserved for winter use by canning. My personal experiences include success with string beans, corn, pumpkin, beets, sweet potatoes, and peas.

Young lima or butter beans are excellent canned, but as the dry shelled beans are very good, it hardly seems worth while to can these.

Even spinach and roadside or meadow greens, may thus be had all year.

Vegetables usually served with vinegar, as beets, greens, etc., will not require such long processing if vinegar is added when they are put in the jars.

We must have these vegetable salts to keep in health. Heretofore, the main home canned vegetable has been the tomato. Do not discard this very healthful vegetable. It is not considered here because it is as easily canned as any fruits.

Ordinary vegetables are more difficult

to sterilize than fruit because these are attacked by a form of bacteria not difficult to destroy in itself, but its spores or eggs withstand much cooking—therefore, we must be very careful to cook the required time counting for each part of the process after actual boiling begins.

For cold dipping the water must be cold; material for several cans, if plunged into the same vessel of water would so temper it that after the first jar or two there would not be the proper sudden shock that weakens the resistance of bacteria.

To gain a little extra heat in the kettle holding vegetables in cans, a well-fitting lid is weighted with an iron. Thus a few degrees of heat are added.

Some advocate covering jars at least two inches with the boiling water. I have found that vegetables keep, other conditions being right, if water comes just to shoulder of jar, providing the lid is kept firmly in place.

Beginning early a few jars of each vegetable in its turn, will by the end of summer be a source of pride, as well as a refuge from extortion.

ALBERTA M. KEPPER.

Iowa, U.S.

Sprinkling Little Good

Very little but disappointment is to be gained from sprinkling a vegetable garden with water. Good results are obtained by giving the roots of the plants a soaking with water from which the chill has been removed. This soaking should be followed in twenty-four hours by a lively hoeing to prevent a crust from forming on the surface of the soil. —J. A.

How We Grow Strawberries

We have had success with both spring and fall planting of strawberries, but we prefer spring planting generally, for a year from the following June we have the bumper crop.

We prepare the ground by having it a rich summer fallow, and then we plant rows four feet apart; and though some prefer them two feet apart in the row, we do not like them so far apart, as closer they form in a body sooner. The patch should be kept well hoed and cultivated, free of weeds, both before and after the crop is harvested, but it should never be disturbed after the buds are formed. After the ground has frozen in the fall, we cover the vines with straw to protect from frost.

If the patch has been kept free of weeds in the fall, less hoeing is required in early spring, and straw may be kept on plants to hinder their growth until there is less danger of frost to kill the blossoms. Still, as a rule, it is wise to cultivate soon after the ground has dried up. We first remove the straw between the rows, allow two or three days for the ground to dry, and then we hoe the berries. After this we return the straw and cultivate with a horse between the rows. We then finally put the straw between rows for a mulch.

There is the objection to cultivating first, that winds may have already blown part of the straw between the rows, necessitating its removal. Then, too, the cultivator makes a ridge along the rows which causes great inconvenience when hoeing afterwards.

If after berries are in blossom, there comes a frosty night, they can be covered with this same straw until weather

Backyard Garden

HIGH GRADE SEEDS

Cardinal Globe Table Beet.....Pkg. 10c, oz. 20c, 4 ozs. 50c, lb. $1.50
Stringless Refugee Wax Butter Bush Beans.4 ozs. 15c, lb. 50c, 5 lbs. $2.25
XXX Early Summer Cabbage, hard heads..Pkg. 10c, oz. 30c, 4 ozs. $1.00
Spinach Beet for greens, used as spinach....Pkg. 10c, oz. 30c, 4 ozs. 90c
Chantenay Red Table Carrot.....Pkg. 5c, oz. 25c, 4 ozs. 65c, lb. $2.00
Cauliflower, Best Snowball, gilt edge.....Pkgs. 15c, 25c, ¼ oz. 85c
Paris Golden Celery, extra fine.....Pkg. 15c, ¼ oz. 60c, oz. $2.00
Citron for Preserving, most productive.....Pkg. 5c, oz. 15c, 4 ozs. 40c
Golden Bantam Table Corn.....Pkg. 10c, lb. 40c, 5 lbs. $1.90
Early Market Table Sugar Corn.....Pkg. 10c, lb. 35c, 5 lbs. $1.50
XXX Table Cucumber, early, prolific.....Pkg. 10c, oz. 25c, 4 ozs. 60c
Select Nonpareil Lettuce, fine heads.....Pkg. 5c, oz. 20c, 4 ozs. 60c
Tall Climbing Nasturtium, standard.....Pkg. 5c, oz. 15c, 4 ozs. 40c
Giant Yellow Prizetaker Onion (black seed)..Pkg. 10c, oz. 25c, 4 ozs. 65c
Yellow Globe Danvers Onion (black seed).....Pkg. 5c, oz. 25c, 4 ozs. 65c
Yellow Dutch Onion Setts .....lb. 35c, 5 lbs. $1.70
XXX Guernsey Parsnip, best for table.....Pkg. 10c, oz. 20c, 5 ozs. 50c
Champion Moss Curled Parsley.....Pkg. 5c, oz. 20c, 4 ozs. 50c
XXX Earliest Table Marrow Peas.....4 ozs. 15c, lb. 40c, 5 lbs. $1.90
Improved French Breakfast Radish.....Pkg. 5c, oz. 10c, 4 ozs. 30c
Scarlet China Winter Radish.....Pkg. 5c, oz. 20c, 4 ozs. 50c
Improved Beefsteak Tomato, very large.....Pkg. 10c, ½ oz. 35c, oz. 60c
XXX Earliest Scarlet Tomato.....Pkg. 10c, oz. 50c, 4 ozs. $1.50
Rennie's Prize Table Swede Turnip.Pkg. 5c, 4 ozs. 20c, ½ lb. 35c, lb. 65c
Giant Branching Asters, Crimson, White, Pink, Blue, etc.....Pkg. 10c
Spencer Good Mixed Colors Sweet Peas.....Pkg. 10c, oz. 25c, 4 ozs. 80c

"Pakro" Seedtape. "You plant it by the yard."
2 pkts. for 25c. Ask for descriptive list.

Rennie's Seed Catalogue Free to All. Delivered Free in Canada.

Order through your Local Dealer or direct from

RENNIE'S SEEDS Wm. RENNIE CO., Limited
King & Market Sts., TORONTO

Also at MONTREAL WINNIPEG VANCOUVER

"PAY YOURSELF FIRST"

THAT'S RIGHT—every day you work our plan, your pay is given you. "Pay yourself first," that's the idea of our representative plan. When you devote ten hours daily acting as our representative—your pay is sure and certain.

We need a hustling representative right in your district. A young man capable of producing good business, preferably one with salesmanship experience. The position will pay big money to one with enthusiasm, energy and ability. Do you know, or are you such a man?

If you *are* and are willing to exchange *your spare time*, representing our publications, *we will* show you how that same spare time, properly used, *will produce* for you as much *cash* as your regular income.

Does this interest you, if so write us TO-DAY and we will tell you all about it.

THE MACLEAN PUBLISHING COMPANY, Limited
143-153 UNIVERSITY AVENUE, - TORONTO, CANADA

A garden which illustrates a good system of getting the most from the available space.

is warm. We like to set out a new patch each spring, ploughing it up after second crop. Then we have a good yield every year. We like, also, to have both an early and late variety, thus lengthening the berry season.

Leeds Co., Ont. L. G. C.

Those Gardens

The greatest danger to the success of the amateur gardening so enthusiastically started this spring, is that the vegetable growers may slacken their efforts at the very moment they should be most assiduous in their attentions to their plants. There comes every summer a few weeks of hot, trying weather when the very life of the garden seems to be threatened. Throughout this exacting period the gardener must give his plants continual attention. It is during this season, however, that the plants shoot up with a little guidance in a way that more than rewards the grower. At no period in the plants' life is it surer to give returns for time and labor expended than in the time when the inexperienced gardener is most tempted to neglect his plots. August may be a hot, enervating month, but beets and carrots and tomatoes and potatoes mature rapidly in its bright sunlight. While the heat and drouth have their discomforts and disadvantages, they mean death to weeds and admit of bringing the ground to a fineness of cultivation that insures a splendid root system for the vegetables, with consequent development and excellence of quality.—J. K.

Bread and butter with comb honey for supper—fit for a prince.

Human nature demands sweets and honey supplies it in the right form.

Do you know the sound of the Queen's piping before a swarm?

INSECTS AND DISEASES AMONG VEGETABLES.

Insect or Disease	Identification	When to Look For	Attacks	Control
Aphis or "plant louse"	Small, green or black, soft bodied flies about 1/16" long, congregating in large numbers.	Throughout season, especially on half-grown plants and in dry weather; on under side of leaves.	Cabbage, cauliflower, lettuce, peas, etc.	Contact spray, two or three applications, at intervals of a week or ten days, especially against under side of foliage, and on folding leaves.
Asparagus beetle	Active, yellow spotted beetle, ½" long.	June-August, especially on new growth.	Asparagus foliage.	Arsenate of lead; cut and burn stalks in fall.
Caterpillar, green	Smooth, light green caterpillar, ½"-1" long; small white or yellow butterflies.	Late May until September, two broods.	Cabbage, cauliflower, etc.	Arsenate of lead or Paris green before heads form; later, hellebore.
Cucumber beetle	Small, very active, black and yellow striped beetle, ½" or so long.	Through season, especially as vines begin to run, and in dry weather.	Cucumbers, melons and vine crops.	Arsenate of lead with Bordeaux mixture. Screen young plants and sprinkle with tobacco dust.
Cut-worms	Sluggish, fat, brown soil worm, ¾" to 2" long with stripe along side; works at night.	Through season, mostly April to June, cutting off young plants and seedlings. Dig around cut-off plant.	Especially cabbage, cauli"ower and tomato plants.	Poison bait before planting, and give plants protection with 4" paper bands 1" in soil; also hand picking.
Flea beetle	Minute, black, active jumping beetle	Mostly in May and June on seedlings; leaves punctured.	Potatoes, tomato, cabbage group, turnips.	Bordeaux mixture and arsenate of lead; tobacco dust on seedlings.
Thrip	Very minute, cause yellowish appearance or twisted leaves.	Throughout season, especially on neglected or backward plants.	Onions and leeks.	Thorough, forceful spraying with kerosene emulsion or with nicotine.
Melon louse	Small green aphis. See Aphis.	Throughout season, usually first in May or June; leaves curl up abnormally.	Melons, cucumbers and other curcubits; strawberries.	Carefully remove, bury or burn infested parts of plants; spray as for aphis.
Onion thrip	Minute, active, whitish insect barely visible to the naked eye, lodging especially down between leaves.	Through season, especially June to August; onion tops twisted and curled, prematurely yellow.	Onions and leeks.	Nicotine spray forcibly applied; kerosene emulsion.
Potato beetle	Common striped beetle or bug ½" long.	Through season, first on earliest sprouting potatoes; three broods.	Potatoes, egg-plants, tomatoes.	Spray or dust with arsenate of lead or Paris green; hand picked from egg-plant.
Root maggot	Small white worm or grub ¼" to ½" long.	Through season; first indication wilting of plants without apparent cause.	Onions, cabbage, cauliflower, turnips, etc.	Protect cabbage group with tarred paper guards; poison paper for adult flies before laying eggs; burn infested plants; nitrate of soda to stimulate growth.
Squash bug ("stink" bug)	Dull black, flat, very active beetle with long legs, often moving backwards or sideways when disturbed; ¼" to ¾" long.	Usually appears first late in June, remaining until cold weather. Young hatched from brown eggs on under side of leaves; resemble large aphis.	Squash, pumpkins and other vine crops.	Trap old bugs under shingles and destroy; spray young with nicotine or kerosene emulsion; screen young plants.
White grub	Large, soft, white, repulsive grub or worm, feeding on roots under ground; ½ to 1¼" long.	Through season; especially numerous in newly plowed sod ground and moist places.	Strawberries especially; also corn, potatoes, etc.	Plowing late in fall; summer following; trapping adults (May beetles); destroying grubs and resetting affected plants.
White fly	Minute, tenacious, white winged fly, congregating in large numbers until disturbed.	Through warm season, especially under dry or overcrowded conditions; prevalent in frames or greenhouses.	Tomato, cucumber, etc.	Spray with nicotine or kerosene emulsion for young, which resemble lice on under sides of leaves; tobacco dust as a repellent.
Tomato worm	Large, green horned worm, often several inches long.	From mid-summer to early fall; strips foliage clean, conspicuous inroads.	Tomato and tobacco mostly.	Arsenate of lead; hand picking into can or pail and late fall plowing.
Blight	Usually a yellowing or spotting of the leaves, progressing very rapidly.	Throughout season, especially in muggy weather and low, closed places.	Potatoes, beans, celery, cucumber, etc.	Spray with Bordeaux at or before first signs and repeat frequently to keep all growth covered.
Mildew	Whitish coating or spotting of the foliage, spreading rapidly.	Favoring conditions same as for blight; also crowded foliage.	Cucumbers, melons, lima beans, etc.	Spray with Bordeaux every week or ten days.
Leaf spot or rot	Spots in leaves, stems, or fruit turning brown or black.	Throughout season, especially in warm weather after rainy spells.	Tomatoes, beans and many others.	Bordeaux mixture, removing surplus foliage, and in the case of fruits that touch.
Rust	"Rusting" or yellowing of foliage or stalks.	Through season, especially late June to August.	Various vegetables, especially celery, beans, asparagus.	Avoid working when foliage is wet; successive sprayings with Bordeaux. On maturing celery use ammoniacal solution of copper carbonate.

The Poultry Yard

Langshans Good Layers

Langshan lovers refer with much pride to the Missouri Egg Laying Contest, 1913, where all the Langshan hens averaged 160 eggs per hen, while their nearest competitors, the Leghorns, averaged 148 eggs. In feed consumption the Langshans ate just one-half pound more grain per hen in the year than did the Leghorns.

Sitting Hens

Feed the sitting hens at the same hour each day. Give them whole grain (whole corn is best) in a dish, so they can eat all they desire. Even under the most favorable conditions for feeding, a sitting hen will lose about three-quarters of a pound in weight during the three weeks of incubation. If there are many sitters in the pen, seven or eight should be fed together, removing any that do not leave their nests. Replace the hens in 20 minutes. The doors of the nests are closed except at feeding time.

Examine the nests while the hens are feeding, and if any eggs are broken the remaining eggs should be washed in warm water and the nest cleaned. Moisten the earth around the nest frequently, and on the eighteenth day of incubation immerse the eggs for two minutes in warm water (105 degrees F.). This softens the membranes inside the shell and results in a greater percentage of chicks hatching.

The Cornish Fowl

As a utility fowl the Dark Cornish cannot be beaten. Some of their qualities are quick growth, plump body, heavy breasts, and flavor as delicate as a wild fowl. Added to this they are very hardy and easy to raise.—C.J.W.

Tom Barron's Secret Is Perches

The perches in Barron's poultry houses do not run the whole length of the house, says the *Farm Journal.* Instead of having them twelve feet from the back to the front, running transversely, not lengthwise, so that but eight or nine hens can sit on each perch. He has found that when perches are placed one way, and a lot of hens in a house, they will many times crowd the perch and push each other off or smother each other, especially on a hot night. When perches are not so long, says Mr. Barron, you can not get so many on and they have not the same chance of sitting so tightly.

How to Preserve Eggs

A practical and inexpensive way of keeping eggs reasonably fresh for several months is of value on the farm as well as in the city. It is possible to put down eggs in the spring months when they are plentiful and have them keep for months, almost as fresh as when put down.

The material used is water glass (sold in drug stores as sodium silicate). It has no chemical action on the eggs, but simply keeps the air out.

Use one gallon of water glass and nine gallons of water. One quart of water glass will make enough liquid for a five-gallon crock packed full of eggs. Place the eggs in the crock and pour the solution over them until they are covered, and leave packed in this manner until eggs are to be used.

The eggs should be absolutely fresh. It will not do to have them three or four days old. They should be put down the day they are laid.

No fear need be felt about the use of eggs preserved by this method. Water glass has nothing harmful in it. When taken out of the solution the eggs should be washed in clear water.

Easy Egg Testing

All eggs that are incubating should be examined twice during the hatching period. An egg tester can be made from a mailing tube. Prepare a double thickness of heavy brown paper, 4 inches square, place one end of the tube at the center and double the edges of the paper over it—to form a paper cap. Fasten the cap with three wrappings of cord. Cut a hole one inch in diameter in the top of the cap.

The free end of the tube is placed at the eye and the egg to be examined is pressed lengthwise against the hole in the cap. Point the tester and egg to the sun or a bright light and you can plainly see the contents of the egg. The paper cap acts as a cushion between the egg and the end of the mailing tube and prevents any light entering the interior of the tube around the side of the egg.

First Test. The eggs are first tested at the end of the first week. The fertile eggs with live embryos in them have a dark spot (the embryo or young chick) in the upper part of the egg, with numerous veins radiating from it. These eggs are to be returned to the hen or incubator. Clear eggs (infertile), eggs with a ring of blood (an embryo that grew a few hours and died), eggs with a dark spot but no veins (dead embryo), and clouded eggs are to be destroyed. However, the clear, infertile eggs can be kept and boiled hard for chick food.

Second Test. The eggs are again tested at the end of the second week. At this stage of incubation a live embryo darkens all the egg except the air cell in the large end. Eggs appearing otherwise are rejected.

Value of Testing. Two or three hens should be set at the same time. By testing the eggs at the end of the first week, it is usually possible to remove sufficient eggs to release one hen. Another sitting of eggs can be placed under her at once and you are relieved of the work of caring for her two weeks for no result. Testing gets rid of eggs which will become rotten and create a stench, and results in a more successful hatch.—F.C.H.

Raise Poultry

"There's Money in hens"

To increase the Nation's Food Supply

This is a Patriotic National Duty

10,000,000

Ten million more hens are needed to meet the home and overseas demand for eggs.

That means 15 more hens on every farm in Canada.

Raise two additional broods of chicks and let the hen help you increase production.

Every pound of food produced helps defeat the enemy.

Britain makes insistent demand for eggs at high prices.

Patriotism and profit both urge you to increase the supply.

Let the hen help you.

Interest your boy and girl in poultry keeping.

If you need information on any subject connected with poultry raising and marketing, write,

THE INFORMATION BUREAU,

DOMINION DEPARTMENT OF AGRICULTURE,

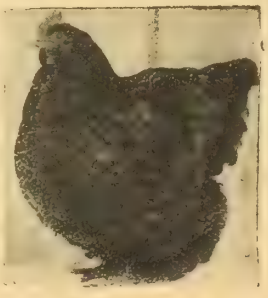
OTTAWA.

HONOURABLE MARTIN BURRELL, *Minister.*

Black Orpington Hens

England's Best

Make poultry pay; breed the best stock. For England's best Blue, Black, Buff or White Orpingtons, send to Harold Corrie. Prices reasonable. Special facilities for exportation. Satisfaction guaranteed. Write for full particulars.



HAROLD CORRIE
Quobleigh, Eastleigh, Hants, ENGLAND
Cables, Corrie, Fair Oak, England.

The Bred-To-Lay Hen versus The Show-bird

Ten or fifteen years ago, it was the day of the Show-bird. Fine feather and appearance, and an aristocratic objection to work—to the extent of more than 40 or 50 eggs a year, and most of these in the Spring and Summer—were the characteristics of the hens that brought the big prices. All that is changing—the present-day world demands that everything must be useful as well as beautiful, and the poultry world is not behind in asking of the modern hen, not "How closely do you come to the show-bird standard?" but "How many eggs can you lay, and how many will your daughters lay?" The best and most enterprising "Show-men" all over the continent realize this and are rapidly introducing trap-nests and are advertising their 200-egg hens with the rest of us

After the day of the show-bird came the day of the hen with the year's trap-nest record, and now has come the most useful change of all—the hen with the WINTER trap-nest record. Four years ago, "Oldham Farm" originated the system of winter trap-nest records, and we fully believe that ten years from now every hen will be sold on her winter record.

Next month, in this space, we will tell some of the necessary things and some of the difficulties in building up such a strain as that at "Oldham Farm."

Send a post card for a booklet telling about "Oldham Farm" and the Bred-to-lay hen. It is free.

LEWIS N. CLARK, Owner and Manager **Oldham Farm, Port Hope, Ont.**

Save by Cutting Out Egg Wastes

The food value of eggs, their freedom from waste, the saving in time, labor and fuel in their preparation, and the favorable way they compare in price with other articles of food places them in an important place in the diet of our people. Now, as never before in the history of the Dominion, the conservation of food supplies must be one of our chief considerations, and the waste now apparent in the handling of eggs, that can be eliminated by careful and more up-to-date methods, is a consideration that will appeal to every citizen who has at heart the best interests of his fellow citizens, his country, and the Empire as a whole.

Why I Prefer Leghorns

Leghorns as they are known to-day are rapidly approaching to be the one ideal fowl for the farmer. They are up-to-date, and profit payers, for the fancier, egg farmer, broiler man, and farmer, hence they are meeting with universal satisfaction, and are being pushed to the front ranks, simply because they merit it, and not because of some few breeders of "the fancy" fancying them for the sake of personal profit.

Of the various varieties the S.C. whites are most deserving of the popularity given to the leghorns, while they are an old color, they still cling to the heart of the true fancier, because of their genuine beauty. Other colors have been developed, but they have not become popular. The leghorn, with the exception of the brown, breeds true with but one single mating, and because of this handicap to the browns their popularity is waning.

The popularity of the leghorn is appreciated in many ways. As a show bird they are prominent in so far as beauty and value are considered. The show bird is a layer and vice versa. At a recent Madison Square Garden show the first hen laid 288 eggs in her pullet year. As a source of profit from the fancy, individual specimens have realized for their owners as high as $1,250, while $10,000 has been refused for 8 winning cock birds at the same show. At the last Ontario the leghorn class contained the largest entries, there being over 100 cockers on exhibition. —A. W. Cook.

Hot Water Bottle Chickens

An ingenuous woman of Peel County had a valuable setting of eggs within two days of hatching when the hen died. She covered the eggs with a hot water bag, kept the water at a temperature of 100 deg. and hatched eleven chickens from the thirteen eggs.—E.M.C.

Worth Remembering

The hen that lays is the hen that is constitutionally fitted therefor by strain, age, rest, food, and exercise. There are strains of hens that will produce more eggs than other strains provided they are fed for that production. If their systems lack any of the various elements that go for the production of eggs there is no use in trying to force the laying process. The hen that has laid till late in the fall must be expected to rest for at least a couple of months before resuming her attentions to the egg basket. The pullet that is not hatched till late in May need not be expected to lay till early in the new year. Even the early-hatched chickens need not

Poultry Book FREE

If you send us the names and addresses of four persons living near you who keep chickens we will send you, free of charge, a 32-page illustrated Book on Poultry Keeping. Address

CANADIAN POULTRY JOURNAL
KING STREET - HAMILTON, ONT.

FOR SALE—S. C. White Leghorn Eggs

$1.00 per 13, $5.00 per hundred. Bred to lay. O. A. C. Strain Eggs, guaranteed ninety per cent. fertile. S. C. White Leghorn Pullets $1.50 each. Cockerels $1.50 each. Special Price on large quantities. All orders given prompt attention. Send your order early as I have only a limited number of Cockerels. Apply

H. B. Cockburn, R. R No. 1, Courtland Ont.

EGGS FOR HATCHING. Day-Old Chicks

BARRED PLYMOUTH ROCKS, SINGLE COMB WHITE LEGHORNS

The best winter layers selected from our large, heavy producing flocks. Prices reasonable. Quality very high. Send for Circular.

WALNUT GLEN FARM
Dept. F. R. R. 4, CHATHAM, ONT.

S. C. WHITE LEGHORNS

from my Cypher's Wyckoff bred to lay strain. Baby chicks, June, July or August hatched $10.00 per 100, $90.00 per 1,000, safe arrival guaranteed. Eggs for hatching, $6.00 per 100, or after May 20th $5.00 per 100, with 85 per cent. fertility guaranteed. Orders for either eggs or chicks booked now on one-third deposit.

THE COOKSVILLE POULTRY FARM
Cooksville - Ontario

A FORTUNE IN POULTRY

Our 264 Egg Kind

Increase your egg yield by purchasing a setting of eggs or brood of Baby Chicks of our high record Rocks, Wyandottes, Leghorns or Reds. 1917 Mating List containing 65 photos of stock, buildings. Feed and tonic formulas free.

R. L. Guild, Box 6, Rockwood, Ont.

A Farmer Said to Me

"The easiest money I make is from my chickens." He keeps 100 hens, sold last year $305.00 worth of eggs at market price, besides what he used at home for eating and hatching. He figures a net profit of $2.50 per hen. You can beat this record with Conestogo bred-to-pay poultry. Order now, fertility and hatchability at its best. We have to-day (April 21) over 1,000 strong, healthy chicks in our brooder houses and hundreds more on the way. Order from this advertisement; if unable to fill will wire you and return money first mail. We have 775 hens in our pens and can ship promptly. Here's the prices for Conestogo bred-to-pay hatching eggs for May and June:

	Per Setting	Per 50	Per 100
B.P. Rocks	$1 50	$4 50	$8 00
S.C.W. Leghorns	1 50	4 00	7 00
White Wyandottes	1 50	5 00	9 00
S.C. Reds	1 50	5 00	9 00

Baby chicks, May and June, 25c each; $20.00 per 100.

CONESTOGO EGG FARM
E. W. Brocklebank Arthur, Ontario

DEMING WATER SUPPLY SYSTEMS

Furnish home, barn or country estate with a steady, dependable supply of clear, pure water under high pressure. The Deming catalog of hand and power operated water supply equipment is free to those planning the installation of a water system. It outlines in detail systems for large and small houses; it proves the simplicity and permanence, the excellence and resulting economy of the Deming Hydro-Pneumatic method. Capacities, 180 to 130,000 gallons an hour.

DARLING BROS., Limited - Montreal, P.Q.

be expected to lay till winter is well under way unless they have been fed for it and kept up to business in growth, exercise and feeding. On many a farm the chickens are allowed to shift for themselves for a great part of the summer with the result that frequently they do not procure all the elements of food they require for early egg production. "Tonics" will do little for such chickens. Correct strains, early hatching with careful nurture, wholesome food of a good variety, plenty of water and grit and lime, abundant litter and scratching space, sunlight, together with scrupulous cleanliness and dry quarters—these are some of the elements upon which successful poultrymen depend for hens that lay in November or December. — Andrew Johns.

Feed the Layers

It does not pay to stint the layers. If they do not get the feed they will not lay the eggs. As a rule, a laying hen will not get too fat. Therefore, feed the pullets well. If green cut bone is available and there is no milk, the former may be fed to the pullets at the rate of about half an ounce each per day. The proportion of grain and mash usually eaten is from two to four of grain to one of mash.

A First Experience in Poultry

When starting farming we determined to try poultry-raising and, to this end, secured for our hen house the most up-to-date plans possible. My husband did the carpentering unaided and we started business with ten hens and one cockerel. From these we got thirty-nine dozen eggs in nine months. In sitting time three hens were given thirteen eggs each. The sitters were young so a few eggs were broken, but our whole hatch amounted to thirty-three chickens. Of this number we raised all except one, which got killed by trying to squeeze under a plank. The chicks were given dry bread crumbs at first, then wheat, while a plentiful supply of fresh water and grit was always within easy access. They suffered no disease at any time and by fall were fine, plump fowls.

During November and December we were obliged to spend the greater part of the time away from home so our poultry was a bit neglected, but when in January proper attention was again given to them, the pullets immediately began laying and have averaged well up to date of writing. The older hens did not commence laying as soon as the pullets, but have also done excellently.

All wood and coal ashes were thrown in the hen house and the sorts of food given were wheat, table scraps, vegetable peelings, separate milk, sand and oyster shells with, of course, a plenty of fresh water.

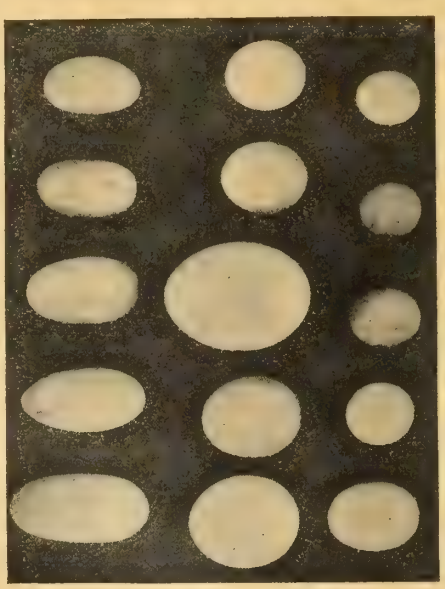
We had no experience in poultry raising but obtained and used persistently all information possible from the Dominion experimental farms.—Alice Funk.

Caponizing Pays

After two years' experience, I am prepared to say that the farmer who raises any of the large breeds of poultry, will find, if he tries, that it pays him big profits to caponize his cockerels. But he will require to have good tools, and perform the operation carefully, or he will lose some of his birds in the operation.

However, our boy made an average of $2.46 each for his capons sold to a dealer in Ottawa, on Jan. 12. He had to buy all the grain they ate, and not counting the bugs they destroyed during the summer, nor the green feed nor skim-milk they got, he estimates they cost about $1.25 each to raise, leaving a net profit of about $1.21. Of course the skim-milk might have been used very profitably to feed the laying hens, or little pigs, but we estimate that the droppings of the chickens, and the destruction of injurious insects paid for the milk.

We do the caponizing when the chickens weigh from 1½ to 3 pounds. This applies to the large breeds, but I would not undertake to caponize leghorns, as they are so small and begin to feel their sex so young, that I believe it would be very difficult to operate successfully. We shut them up for 36 hours, giving neither food nor drink, so that the intestines are emptied completely. We operate on a little operating table on top of a barrel, the table being made out of two pieces of 14-in. board, about 20 inches long, hinged together at one end, and the hinged end placed towards the operators. The operator stands with his back to the sun, so the light will shine over his left shoulder into the incision he makes in the chiken's body thus showing up distinctly the organs, when the opening has been completed. A chicken is then placed on the operating table, on one of its sides, with the legs drawn backwards over the edge of the table, and a light weight, as a horse shoe, suspended by a string around the legs, and hung down into the barrel out of the way. Then another string is slipped over the two raised wings and the weight on this string is dropped over the other side of the little operating table into the barrel. The feathers are then plucked off the upper side of the chicken around the vicinity of the middle of the two last ribs. The skin is then pressed towards the head about half an inch and an incision made through the skin and thin layer of flesh, about half way up between the two last ribs with the knife belonging to the kit of tools. There are two little veins coming together and joining at nearly right angles near where the cut is made, and it is well to make the cut between these, so as to not cut either of them, and there will then be practically no bleeding to bother. If one of the veins is cut, there will be some disadvantage from the little flow of blood obscuring the organs. It is well to have a clean dish convenient, and containing a weak solution of carbolic acid or other good disinfectant, and the tools stood with the part that touches the wounds standing in the solution when not in use, that there may be no infection enter the wound. It is also well to have a sponge of cotton cloth in another dish with clean water and weak disinfectant, convenient, lest there may be a little flow of blood that may bother the operator in finding the organs, in which case the blood may be sponged away.



A collection of dwarf eggs with a normal egg in the center of the group. This normal egg indicates the relative proportions of the dwarfs. Every farmers and poultryman has seen these dwarf eggs. Many have wondered why they occur and what their cause is.

When the above incision has been made, a thin filmy skin appears inside, and this is punctured with the little hook, and if the light is permitted to shine into the hole, the organ may be plainly seen lying back near the spinal column. Then with the little pinchers we reach in and grasp the little yellow beanshaped organ, and pull it out.

The chicken is then turned on the other side and ends reversed, and the same process is followed, removing the other organ.

The chicken is then removed from the table, and placed on the ground where some moistened and easily digestible food has been placed, and it eats some, and then goes into the shade and sits down till the food gets into the system and strengthens it after its long fast, when it goes off with the rest and next day can with difficulty be distinguished from others that have not been caponized.

Sometimes, in a day or two, the chicken may seem all swollen, and examination discloses the presence of considerable air under the skin. This need cause no worry. Simply puncture the skin, preferably with disinfected knife or other tool, and let out the air, and there is no trouble with it.

When the capon grows up, he has lost all his sexual notions, is much more docile and grows and gets fat, and becomes a bunch of the most delicious poultry flesh you can conceive of.

CAPONS MAKE FOSTER MOTHERS.

If desired, one or more may be kept over till next season, when chickens are hatched, and be placed in a coop beside the coop of chickens, and the chickens fed largely in his coop, he will fall in love with the fluffy little things and in a couple of weeks the hen that hatched the chickens may be removed and the capon will mother them, and take very much better care of them than the hen would, staying with them till they are near full size, and his head always up in the air, watching for signs of danger, and always giving timely warning. A good capon will easily take care of 30 chickens at a time. He will rarely, if ever, scratch and is much safer in the garden than the hen and his presence there with his flock will account for the disappearance of innumerable injurious insects.—W. J. Kerr, Carleton Co., Ont.

Are Shorthorns Too High?

The Ordinary Man Who Reads Our Auction Sale Records is Liable to Ask This Question

By W. H. J. TISDALE

SALES have been the order of the day for several weeks past and many of us no doubt have wondered at the fabulous and in many cases record-breaking prices that have been paid for pure-bred sires. 2,500 rams sell for an average of $53.36 at Salt Lake City, one of them realizing $1,000 and many ranging in price from $200 to $600. Wm. Duthie, of Scotland, disposes of a number of Shorthorn bull calves that realized the substantial average of $3,030. Our American friends have recently held many Shorthorn, Hereford and Angus sales where the sires included, averaged from $200 to $1,000. A number of prominent Ontario breeders hold a Union sale of Shorthorn stock in Toronto and 36 bulls bring an average of $356, the highest figure being $1,500 for Kinnellar Yet. Approximately 350 Shorthorns sold at different points in the United States and Canada during the past few months have ranged in price from $1,000 to $5,000. Someone in the Argentine, where they believe in paying tip-top prices, gives $50,000 in Argentine money for a pure-bred bull. A large number of hog men assembled for a recent congress sale at Purdue University, Lafayette, Indiana, bid in such a lively fashion that 50 head of swine average $120.40, two of them bringing $350 and $330. And, thus one could go on *ad infinitum.*

Naturally, we ask, are such prices justified, are they stable and do they represent the intrinsic value of the animals in question. Instead of this are they not perhaps simply proving that oft-repeated phrase "history repeats itself"? Let us see.

Looking at the prices realized by any group of sires that have been placed up at auction it is a pretty hard matter to locate any spectacular price. Many of them are large, it is true, and they are the result in most cases of spirited bidding amongst men who have pure-bred herds established or who contemplate the establishment of such in the very near future. But they are all based upon sound reasoning in connection with the permanency and stability of livestock in our scheme of farming. Furthermore, breeders and farmers are realizing that it is producing costs, market requirements and the preference of the consumer that counts nowadays and they are looking for these essentials combined with the pedigree and breeding that will stamp them upon all offspring. A "scrap of paper" counts for much in this case but it is not everything. Present day requirements are more exacting and high standards are imperative. "Improvement" is the slogan and anything that in its conformation, constitution, quality and breeding shows real evidence of affecting that improvement is the centre of interest in the sale ring and the recipient of high bids.

The argument is then advanced perhaps that the large breeders are the only ones who can afford to pay such high prices; that these sales are largely an interchange of animals amongst these men. Is this true? Are they the only ones in attendance at the sales and are they the only buyers? Decidedly no. Now and then a farmer steps up and "taking the bull by the horns," so to speak, says, "Here, I am going to take a chance on this, everybody seems to be making so much of it. I only have a herd or flock of fairly good grades at home, but if the pure-bred sire is of so much importance in the pure-bred establishment, why should he not be infinitely more important amongst my grades? $1,000 is a large sum of money, but perhaps it will be returned tenfold." This is simply a sign of the times and every day one finds more farmers who have argued and reasoned the question out as described above. They are willing to take the "chance" if you like to call it that and in ninety-nine cases out of one hundred they never regret having done so.

I know of no better answer to the question, how much can the average farmer who has a little capital to invest in livestock, afford to pay for a pure-bred bull, than the following: A fair price is whatever the offspring of a strong typey pure-bred bull bred to a bunch of common cows will sell for at marketable age in excess of the offspring from the same cows bred to a common, nondescript bull. A good example is found in a trio we have at the college farm. Glenmere Proud Lad, the pure-bred Aberdeen Angus sire, owned until very recently by the University of Saskatchewan, is a proud, masculine, well-made fellow weighing 2,050 lbs. and covered with a wealth of thick, natural fleshing. The dam is a common, red, grade Shorthorn cow of no particular breeding, rather upstanding, somewhat angular and lacking greatly the make-up of a typical beef animal. Simply a useful farmer's cow. In the third animal we have the result following the mating of these two—a polled steer, black in color that attained the weight of 1,350 pounds in 23 months. He would pass as a pure-bred almost any place, not only because of his fine thick, black coat and strong, polled feeder's head, but also on account of his low-setness, smooth shoulders, deep heart, wonderful loin, thick, deep hindquarters and his admirable uniformity of parts. He was fed and handled in much the same fashion as hundreds of other steers on farms all over the country, running with the cow for the first 7 or 8 months and after that time getting the roughage and coarse grains of the farm. Hence, 1,350 pounds at 23 months is a practical farm result and is a most convincing illustration of the results to be obtained from even the *one* good cross. What results could we confidently look for if such a system were followed for two or three generations, provided the offspring in each case was a female?

On the other hand let us suppose that this common grade cow had been bred to a mean, common kind of bull weighing perhaps 1,300 pounds at maturity and any number of them do not weigh a pound more. What weight could we expect a male calf of such breeding to attain when two years old? At the most, it could not possibly run much over 1,050 pounds compared to 1,350 made by the calf of superior breeding.

Figures speak and here we have them. Placing the same selling price (6 cents) upon both animals, the 1,050-pound steer realizes $63 as compared to $81 for the 1,350-pound steer—a difference of $18 due to increased weight. Ordinarily, however, the heavier steer because of superior breeding is more thickly and evenly fleshed with a wider and thicker loin as well as a fuller and more valuable quarter. These things tend to make the animal worth more from the butcher's standpoint and hence it goes a grade higher on the market than the lighter steer. Such a grading usually means an additional price of at least one-half cent per pound. Thus the well bred steer runs the chance of selling for 6½ instead of 6 and thereby gaining another $6.75 on his inferior bred selling mate. This gives us, roughly, a net gain of from $20 to $25 in the case of one animal, all due to a thorough appreciation of correct breeding principles. At present market prices, the difference in value would be more marked than ever, but it is always wise to handle figures in a somewhat conservative manner.

Now, it is generally conceded that a bull well fed and cared for should sire approximately 100 calves during his period of usefulness and this being the case what difference in value have we between the total offspring from the scrub and the total from the pure-bred? If between one there is a difference of $20, the increased value on 100 must naturally be at least $2,000 and we do not need to pay that much money by any means for bulls of the right stamp. $500 and less will buy a bull, the progeny of which are as valuable as the one mentioned in this article, but it is not wise to get "cold feet" if you have to pay $1,000 for the bull you have decided upon as being best suited to your purpose.

In the light of practical, everyday figures then the so-called high-priced sire is not high-priced, provided he is given the chance to prove his usefulness. Looking at the question broadly there are two essential requirements in the improvement of livestock—blood and care. The one must be purchased and through selection must be kept pure while the other depends upon the interest, ability and natural inclinations of the buyer and feeder. Both are necessary to insure results and one not any more so than the other. Hence it pays to buy the best even if one has to pay the price that good breeding invariably commands.

A Big Fat Record

The agricultural editor of the Toronto *Globe* says that the Holstein-Friesian heifer Uniform Lorena has broken the record for fat production in the junior three-year old class by producing in seven consecutive days 528.4 pounds of milk containing 29,983 pounds of fat. Her sire is Parker King Segis Alban De Kol; her dam is Lorena Mechthilde De Kol. He must have been taking some liquid nourishment stronger than milk when he wrote this.

Midget Flour Mill

Assure yourself of a good income by milling the wheat your neighbors grow. The Midget Mill has placed a good paying business within your reach. This flour mill—complete in one frame—will handle grist from one bushel up, returning the highest quality flour. Made in two sizes—25 and 50 barrel capacities.

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THE GARDENETTE OR CITY BACKYARD GARDENING.

By Benjamin F. Albaugh. Arranged to meet the needs of the beginner. Especially for those who have limited areas that are available for planting. Handsomely bound, $1.35 postpaid.

THE MACLEAN PUBLISHING CO., LTD., 143 University Ave., Toronto.

The Fruit Grower

Orchard Notes

Spray, for clean fruit is always nicer to handle.

Clean cultivation on most soils pays until July.

And we can use all the grapes that Canada produces.

Everybody likes peaches, and rarely is the appetite satisfied.

It is not too late to graft yet, provided your scions are dormant.

Most nurserymen send out planting directions. Read them carefully.

The call for apples after the war will make the man who has the orchard glad.

It is a good plan to muzzle the horses used among the young trees and bushes.

Make plans for marketing your own apples, in boxes or barrels, to your city friends.

Spray for oyster-shell scale the first week in June with a summer-strength solution.

Plant a few mulberry trees so the birds can have a feed and they will keep away from your cherries.

If you are growing clover on the bearing orchard, prepare to cut it and leave it for a mulch.

Why not a small cider press in every home where we can squeeze out the fruit juices and live as we ought?

I planted out twenty-five fruit trees to fill out my orchard this year. They were McIntosh and Jones' Red Snow.

Many apple trees suffer from excess of nitrogen. This shows by a loosening of the bark on old trees and consequent death of the tree.

W. F. W. Fisher, of Burlington grows his pear trees in a block with the trees 10 x 12 feet. They do well under his intensive cultivation.

There is no fruit that can compare with a good, well-grown apple. Do not fear about the market. Get the good fruit and take the chance.

Did you ever pit apples in the fall? I put a box full in the garden, two feet down, last October, and have just finished eating them. They were in a firm condition and apparently as tasty as ever.—Grasmere.

Another Old Orchard

I noticed an article in the April number of your magazine relating to old apple trees. The orchard on my farm in Oxford County was planted in 1848 and still bears well. The majority of trees bear that well-known apple, the Northern Spy. There is one tree worthy of note. It measures 8 feet around the trunk and often bears from 40 to 50 bags of apples. —Edgar Wilker.

Ontario Apple Growers.

Mr. E. C. Gurney, of the Ontario Co-operative Fruit Growers' Association, has recently returned from a visit to Western Canada, in the interests of the Ontario apple. He reports a strong feeling in the West for the old Ontario flavor, and predicts a big consumption of Ontario apples this year. The bad crop of last year, when scab was so common, was understood perfectly by the Western farmers.

This year, it is hoped, that there will be a big percentage of clean fruit, and Mr. Gurney feel confident of an increasing co-operation between Ontario and the West.

How B.C. Looks At Apple Future.

This year British Columbia is expected to produce an apple crop twenty-five per cent greater than ever before, but in view of the Imperial embargo, the 500,000 barrels, the normal export of Nova Scotia

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New Scale

SINCE Music is to be a part of your home and your life, let the Williams impart to you that thorough enjoyment which comes from playing on a well-made piano.

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to England, will have to find a market in Canada, and undoubtedly the most of it will be dumped on the prairies. Apple prices are expected to reach the lowest figure in the history of the industry in Canada. To create a home demand is imperative, and it is with that end in view that the B. C. Fruit Growers' Association is preparing its campaign. It is proposed to spend three times as much money as in previous years, and besides the aggressive campaign on the prairies it is proposed to work up the interest among British Columbians to the end that the apple may find a much larger place in the daily menu of the people. "Apple Days" will be held and probably a "Buy a Box of Apples" movement will be inaugurated. The fruit-growers are now working on their plans.

A 50-lb. Butter Cow

Segis Fayne Johanna, owned by Pine Grove Farms, New York, is an 8-year old Holstein, with a record of 50.68 lbs. of butter in seven consecutive days. Certainly the Holstein is making good.

The Tractor to Our Aid

Continued from page 15.

vanced for the making of preparations, involving considerable time, for wheat, oat, and barley seeding; but emmer, which corresponds to barley in feeding value, can be sown as late as the end of May; buckwheat, another useful grain, can be sown later still; corn, the chief reliance with many farmers in coarse fodder, will do well if seeded as late as June on well-prepared ground. Millet, a substitute for hay, is another late crop.

By the proper use of tractors, every available acre in Ontario can be got into crop of some kind. Without such aid many acres will remain barren. Once the crop is in there need be no fear about the ability to handle the harvest end of it. Green labor is not of much value at seed time, but any man possessed of reasonable bodily strength can use a fork in the harvest field, and this green labor will, under arrangements now being perfected, be supplied in sufficient volume from the cities. —Editorial, *The Globe*, April 18.

MAY BUY TRACTORS TO HELP FARMERS.

Government-owned farm tractors placed at the disposal of farmers who need assistance in order to get their crops planted and harvested, will probably be a feature of the Government's plans to assist in greater production this summer. Last night C. F. Bailey, Assistant Deputy Minister of Agriculture, upon the instructions of Sir William Hearst, sent out a message to every district representative in older Ontario, asking for suggestions in regard to the purchase of a tractor for each county.

If the scheme is endorsed, as the Department is confident it will be, some thirty-five tractors will be purchased at an expenditure of between $35,000 and $40,000. They will be placed under the control of the district representatives, who will direct their use. The details have yet to be worked out, but it is expected that the tractors will be used to plow farmers' lands at so much per acre, or per day, or rented to the farmers at a daily rental. The Department plans to purchase a number of different types of tractors, such as could be used to advantage by the owner of a 200-acre farm, or by two or more farmers with smaller areas to cultivate. In this way the tractors this summer, in addition to helping to solve the labor difficulty, will demonstrate their efficiency and economy.

If the tractors are purchased they will be used day and night.—*The Mail and Empire*, April 17.

Grain vs. Cream in Saskatchewan

At the Provincial Dairy Convention, Saskatoon, Saskatchewan, C. E. Thomas, Dominion Dairy Recorder for the district of Lloydminster told of his achievements in building up a profitable herd of cream-producing cows in the course of three or four years by adopting a consistent policy of daily testing the individuals in his herd for weight and butter fat.

Out of 100 acres of wheat in 1912 Mr. Thomas and his son on their half section netted $1,532. While this was a desirable return, Mr. Thomas said, unfortunately they could not expect that result every year. He, therefore, decided to make an inventory of his dairy cattle in an endeavor to ascertain whether a better and more certain income could be derived from that source. As a result of his figuring he came to the conclusion that one cow would yield as much as six acres of wheat and that, therefore, if he were to realize the value of 100 acres of wheat every year it would be necessary to increase the herd from four to fifteen or sixteen cows.

Mr. Thomas made a start by weighing his milk every day and profiting from the lesson which he learned from his figures and he was successful in increasing the flow from 83 to 100 lbs. a day in 20 days.

Continuing his experiences Mr. Thomas related how he built up a profitable herd, buying and selling his animals on the basis of their productivity. As a result of his work during the year 1914, he derived an income amounting to $1,521.88 from the sale of cream, cows, calves and prizes, and at the end of the year had on hand an increase of 11 heads of stock and a car of wheat into the bargain.

I do not believe that the placing of wheat and flour on the free list will operate to the disadvantage of Canadian railways or water transportation companies, or reduce their earnings to any appreciable extent, if at all.—James Carruthers, President, Canada Steamship Lines, Ltd.

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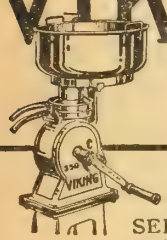

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Write for interesting descriptive booklet, or ask your dealer.

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Proof is found in 100,000 Official Tests
FOR MILK, BUTTER AND CHEESE
No Other Breed Can Equal Them
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The Business of Dairying

Do Pure Bred Cattle Pay?

A really good grade dairy cow will produce as much milk as a pure-bred animal. On a couple of occasions, grade cows won the sweepstakes in the Guelph dairy test. Just this winter a grade Ayrshire cow was the champion dairy producer at Ottawa. It is true that in almost any dairy section where good pure-bred herds are numerous, that there will also be found in that section grade dairy herds with just as high averages at the cheese factory or creamery. The greater investment in pure-bred cattle can be justified, therefore, only on the ground of the greater selling value of the young stock.

A Holstein breeder in Prince Edward Co., Ont., was asked a few weeks ago if this greater selling value would compensate for the greater investment. He began to figure up the results of his own pure-bred venture. On March 3rd, 1906, he bought two pure-bred Holsteins, a male and a female calf. Since then his investments total $1,955. Estimating the value of the pure-bred herd on hand and sales of stock in the meantime, the total returns from his investment in pedigreed cattle amount to $11,700. This amount does not include the milk from the herd or other incidentals in the line of revenue. Other breeders with whom he had talked have adduced similar figures to prove the wisdom of their investment in pure-bred dairy cattle.

The spread in price between good grade cows and good pure-bred cows is not as great now as it once was. The buyer must pay $115 to $125 for a good cow of only grade breeding. At an auction sale in Oxford county recently, good pure-bred cows averaged only $250, a spread in price between the two classes of $125 to $135. It would not take many calves to make good the difference and the straight commercial returns from the two classes of animals will be approximately the same. The man who can handle good grade cows advantageously in nine cases out of ten could handle a pure-bred herd to even better advantage.—E.F.

Quebec Dairies

The following table shows the amounts of butter and cheese manufactured in the Province of Quebec in the years 1910, 1915 and 1916:

	1916.	1915.	1910.
Butter factories	638	604	787
Cheese factories	882	935	1,062
Combined butter and cheese factories	463	519	293
Total	1,983	2,058	2,142
Butter manufactured, lbs.	33,473,096	36,621,491	41,782,678
Cheese manufactured, lbs.	59,651,615	54,217,113	58,171,091
Average price of butter, per lb.	.33	.29	.25
Average price of cheese, per lb.	.18	.13	.13
Total value of butter	$11,079,416	$10,899,810	$ 9,961.732
Total value of cheese	$10,819,985	$ 7,571,691	$ 5,695,254
Total value of the two products	$21,899,401	$18,471,501	$15,656,986

Doris Clay Again on Top

The Shorthorn dairy cow Doris Clay, whose picture in the November number of the FARMER'S MAGAZINE was the subject of a guessing contest by the readers, has made another record. She produced 17,-241.5 pounds of milk and 653.35 pounds of butter fat during the year finished on January 22nd. She is owned by an Ohio firm.

Prepare for the Lean Weeks

Every dairyman knows the importance of keeping his herd up to their yield throughout the whole period of milking. Equally well is he aware that there comes a period in every summer when the grass is as dry as snuff and about as nutritious. Yet in view of these facts comparatively few aim to provide against the period when not only the grass fails but water is scarce and the flies both for multitude and torment vie with the plague of Egypt.

As for the feed there is nothing better than a sowing near the barn of an acre or so of corn, distinguished by its rapid growth of leaf and stalk. When the grass is scarce and dry the cows fairly revel in the succulent corn. A liberal ration served in the stable night and morning is to the dairy herd what an egg nog is to an Irishman—both meat and drink. If meal can be added so much the better, but as grain is scarce and dear this year, the need of abundance of corn is all the greater.

As for the keeping away of the flies, it is well to remember that flies are notorious scavengers and that they are best fought by absolute cleanliness. Darkening the stable windows, keeping the stable gutters and passage ways clean and dry and the stalls and the walls well whitewashed will go a long distance towards giving the cows a quiet hour while in the stables. Indeed, when the farmer can afford to feed his cows meal and plenty of succulent corn or other green fodder from his fields it is oftentimes advisable to keep his cows in the byre till the fly season is well over. Cut straw or shavings or sawdust liberally distributed in the stalls and in the gutters will go a long distance towards insuring the comfort of his stock and freedom from the torment wrought by flies.—Alonzo Brown.

Keep Clean Dairies

The principal things to guard against in connection with the contamination of milk are typhoid fever, diphtheria, scarlet fever, and intestinal diseases in the summer time, especially among children. To prevent these diseases the main thing is to preach milk hygiene, to provide competent dairy inspection, and more than all as an immediate protection, see to it that there is active co-operation between the doctors and the board of health, to the end that every case of infectious disease, both at the dairies and houses where milk is delivered, shall be reported to the proper authorities without delay.—G.H.G.

Oleo vs. Butter

Senator McCumber, of North Dakota, says *Hoard's Dairyman,* struck the bull's eye in his reply to Senator Underwood's declaration that the laboring man wanted oleo-margarine, when he said: "Let him go to any boarding house in this city or any other city where laborers board and set a plate of butter on the dining table and mark it Elgin butter; and then let him put on the table another plate and mark that Chicago oleo-margarine. Your pound of oleo-margarine would remain there for six months and would not be touched, but your plate of butter would have to be refilled very many times."

Milking Machines Accomplish Economy

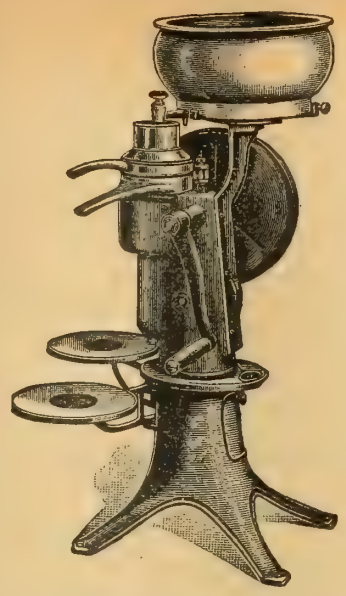
That the modern improved milking machine is proving a necessary factor to the success of large dairies is no longer a question to be debated, says the Colorado Agricultural college. Recent investigations indicate that great efficiency and economy is secured by those machines, when milking fifteen or more cows. From data gathered in various counties of New York, Michigan, Ohio and Illinois, it was found in milking by hand the average cost per cow in herds of fifteen cows or less was $10.91 a year as against $10.45 in herds of fifty or more. Those dairies using machines in herds of fifteen or less had an average cost for milking of $11.77 per cow per year as against $7.34 in herds of fifty.

The most economical use of milking machines was secured by dairies formerly using three or more men at milking time. One of these men could be easily replaced by the use of machines, while the remaining two were needed to operate the machines and care for the herd. The value of this labor replaced was found to vary from $2.63 to $8.33 per cow per year, according to the number in the herd. Best results were obtained when one man operated and stripped after two units, each of which milks two cows.

The time of milking by hand was reduced from seven minutes to five minutes by machine and no injurious effects resulted from the use of the machines either upon the cows or the relative milk flow.

Manitoba Has a Record Cow

What is believed to be the first record of over 20,000 pounds of milk from a cow in one year in Manitoba has been achieved by a pure-bred Holstein-Friesian in the dairy herd at the Provincial Asylum for the Insane at Selkirk. Centre View Butter Girl II. is the cow and her record for 365 consecutive days in 1916 was 20,502 pounds of milk and approximately 844 pounds of butter. She is over 8 years old. —V.N.



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DETACHABLE SPINDLE, OIL SPLASH and loose discs. We GUARANTEE these machines to be built of the best material, first-class workmanship, skim clean, easy to turn and wash. Cash prices very low. Must satisfy or money refunded. Sold on easy terms if desired. Write today for catalogue and local agent's address.

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More wool and better grade Wool comes from sheep whose fleece is kept free from ticks by the use of Zenoleum, the great standard Coal Tar Disinfectant. Zenoleum-treated sheep have fine, white fleece, which brings best price. Sheep kept healthy by Zenoleum put on weight and are more profitable for marketing as mutton.

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As a "dip", Zenoleum is *clean,* and does not leave fleece *stained* or *greasy.* It is a powerful germicide, stronger than carbolic acid, yet is not poisonous, is not inflammable and is not injurious to handle nor does it burn or irritate the skin as most other preparations do. Used by 50 Agricultural Colleges. FREE copy of our Booklet, Diseases of Livestock and Their Cure, sent post-paid on request.

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IF an extra $5.00 or $10.00 a week interests you and you have two or three hours a day that you can spare, let us tell you how that much time can be turned into money. The more time you have the better the pay. We'll buy all you have and pay cash for it.

We need bright, active, hustling young men and women as district representatives. We will within the next month make hundreds of appointments—why not write at once and secure your district. If you are looking for an increase in wages, to take care of your many extra summer needs—our plan provides the money for them without interfering in the least with your regular duties.

Recently, here in Toronto, one young man earned $30 in one week. He devoted an average of four hours each day to looking after our subscription business. Would an income like this interest you? Write us to-day; we will gladly send you full particulars concerning the plan without obligating you in the least—simply say, "Show me how to turn my spare time into money."

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Famine and World-Hunger Are on Our Threshold

"———

In the nation's honour, heed!
Acquit yourselves like men.
As workers on the land, do your duty with all your strength!"

—Lloyd George

The Crisis

France, England and Italy in peace times did not depend upon America, but on Russia, Roumania and Bulgaria for most of their bread stuffs. With these sources closed the crisis of the hour demands that we see that our soldiers and the Motherland are fed.

Everyone in Great Britain has been put on limited rations; meat is prohibited one day a week and the making of cakes and pastry has been stopped. Further restrictions are anticipated.

Bread has gone to 28c per four-pound loaf in England, for the first time since the Crimean War.

Lord Devonport, British Food Comptroller, proposes taking authority to search the houses of Great Britain to prevent food hoarding.

Forty million men, less the casualties, are now on active service.

Twenty million men and women are supporting them by service in other war activities.

In the last analysis, the land is bearing this burden.

One million tons of food carrying ships have been torpedoed since February 1st, 1917.

Germany's hope for victory is in the starvation of Britain through the submarine.

Canada's sons will have died in vain if hunger compels the Motherland to surrender.

The land is waiting—the plough is ready—will we make the plough mightier than the sword?

Will we help the acres to save the flag?

World-Hunger Stares Us in the Face

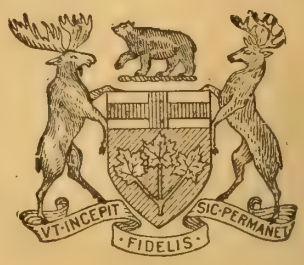
David Lubin, representative of the United States to the International Institute of Agriculture—maintained by forty Governments—reports officially to Washington that the food grains of the world on March 31st, 1917, showed a shortage of 150,000,000 bushels below the amount necessary to feed the world until August, 1917. He declares it is beyond question that unless a greater acreage is put to crop in 1917 there will be WORLD-HUNGER before the 1918 crop is harvested.

The failure of the grain crop in the Argentine Republic which is ordinarily a great grain-exporting nation, resulted in an embargo being placed, in March, 1917, upon the export of grains from that country to avert local famine.

The United States Department of Agriculture, in its official report, announces the condition of the fall wheat crop (which is two-thirds of their total wheat crop) on April 1st, 1917, to be the poorest ever recorded and predicts a yield of 244,000,000 bushels below the crop of 1915. The 1916 crop was poor. Even with favorable weather, the wheat crop of the United States is likely to be the smallest in thirty-five years, not more than 65 per cent. of the normal crop.

—Photo from London (Eng.) Bystander.

A FIFTEEN-YEAR-OLD GIRL AT WORK.
Miss Alexandra Smith, one of the thousands of British women workers on the land. She recently won an All-Comers' Champion prize for plowing.



ONTARIO

Under date of April 10th, Ogden Armour, executive head of Armour & Company, one of the world's largest dealers in food products, stated that unless the United States wishes to walk deliberately into a catastrophe, the best brains of the country, under Government supervision, must immediately devise means of increasing and conserving food supplies. Armour urged the cultivation of every available acre. The food shortage, he said, is world-wide.

European production is cut in half, the Argentine Republic has suffered droughts. Canada and the United States must wake up!

People are starving to-day in Belgium, in Serbia, in Poland, in Armenia, in many quarters of the globe.

Famine conditions are becoming more widespread every day.

On these alarming food conditions becoming known, President Wilson immediately appointed a Food Comptroller for the United States. He selected Herbert C. Hoover, to whom the world is indebted as Chairman of the International Belgium Relief Commission, for his personal direction of the distribution of food among the starving Belgians.

Mr. Hoover is already urging sacrifice and food restrictions, for, as he states, "The war will probably last another year and we shall have all we can do to supply the necessary food to carry our Allies through with their full fighting stamina."

The Problem for Ontario

The land under cultivation in Ontario in 1916 was 365,000 acres less than in 1915. Consider how much LESS Ontario produced in 1916 than she raised in 1915:

			1916 DECREASE	
	Acres	Bushels	Acres	Bushels
Fall Wheat—				
1916	704,867	14,942,050	105,315	9,794,961
1915	811,185	24,737,011		
Barley and Oats—				
1916	529,886	12,388,969	24,432	7,504,160
1915	552,318	19,893,129		
Peas and Beans—				
1916	95,542	1,243,979	31,401	799,070
1915	126,943	2,043,049		
Corn—				
1916	258,332	12,717,072	51,441	9,043,424
1915	309,773	21,760,496		
Potatoes and Carrots—				
1916	139,523	7,408,429	34,411	5,858,594
1915	173,934	13,267,023		
Mangel-Wurzels and Turnips—				
1916	42,793	9,756,015	8,006	15,600,308
1915	50,799	25,356,323		

Other crops show as critical decline.

Reports from Ontario on the condition of fall wheat for 1917 are decidedly discouraging.

As there is an average of not more than one man on each hundred acres of farm land in Ontario, the prospects indicate even a still smaller acreage under cultivation in 1917 unless extra labor is supplied.

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—McCay in the New York American.
THE SECOND-LINE TRENCHES.

Food Production is the Greatest Problem the World Faces To-day

Owing to destruction by submarines, ocean ships are scarce.

It is much easier to protect shipping between Canada and England than on the longer voyages from India or Australia.

One vessel can make twice as many trips from Canada to Britain as from India, and four times as many as from Australia.

Therefore, every ton of food stuffs grown in Canada is worth to the Motherland two tons grown in India or four tons grown in Australia.

Why the Call to Canada is So Urgent

If this country does not raise a big crop this year, not only will the people of Canada suffer, but the Motherland and her Allies will suffer and their military power will be weakened if not paralyzed. Therefore, the right solution of the present war problem comes back to the farm, as to a foundation upon which our whole national and international structure must be built and maintained.

The farmers know that they are the last reserve, and that the soil on which crops are grown is the strategic ground on which wars are decided. To their care is entrusted the base of supplies.

To enable the farm to do the work two factors are essential. The first is Time. Whatever we are to do must be done at once. Nature waits for no man. The second is Labour. Many farmers cannot plant the acres they would because they cannot get the necessary help. Many are afraid to increase their acreage because they fear they would not be able to cultivate and harvest an unusual crop after they had raised it. If they are to do the work that is essential for them to do, the last man in each city, town and village must be mobolized at once.

Every man not on Active Service can help. In every city, town and village are men who by their training on the farm, or by their present occupation, can readily adapt themselves to farm work. These can render no greater service to the Empire at the present time than by answering the call of the farm. Capable men and boys willing to learn should not allow their lack of farm experience to stand in the way.

Can the employer render a more signal service in this crisis than by encouraging these men to help the farmer to cultivate every available acre, and by making it easy for them to go?

Ontario's farm lands are waiting—the implements are ready—the equipment is complete—the farmer is willing—all he needs is labour.

So short is the world's food supply that without increased production many in Canada must go hungry, and even with enormously increased production we cannot expect cheap food. The world is waiting for our harvest.

If peace should be declared within a year the food conditions will be no better, for the accumulated hunger of the Central Empires must be met. This will absorb a large part of the world's supply.

We do not know when this war shall cease. It is endless—its lengthening out has paralyzed the thought and conception of all men who thought about it and its possible time of conclusion. Three months—six months, we said; nine months, a year, we said; and yet two years and eight months have passed their long dreary and sanguinary length and there is no man who can tell how long this gigantic struggle may yet last.

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—From the New York Evening Mail.
HUNGER TIGHTENING HIS GRIP

Lloyd George, in a letter addressed to farmers throughout the Empire, said:

"The line which the British Empire "holds against the Germans is held by "those who WORK ON THE LAND "as well as by those who fight on land "and sea. If it breaks at any point it "breaks everywhere. In the face of the "enemy the seamen of our Royal naval "and mercantile marine and the sol-"diers gathered from every part of our "Empire hold our line firstly. You "workers on land must hold your part "of our line as strongly. Every full "day's labor you do helps to shorten "the struggle and bring us nearer vic-"tory. Every idle day, all loitering, "lengthens the struggle and makes "defeat more possible. Therefore, in "the nation's honour, heed! Acquit "yourselves like men, and as workers "on land do your duty with all your "strength."

So, for the honour of Canada's soldiers in France—and for the glory of our New-born Nationhood—let it be said of Ontario's citizens that, in the hour of our greatest need, their response was worthy of their sons.

We owe a great debt to those who are fighting for us.

Organization of Resources Committee Parliament Buildings, Toronto

Chairman: His Honour, Sir John S. Hendrie, K.C.M.G., C.V.O., Lieutenant-Governor of Ontario; Vice-Chairmen: Honourable Sir William H. Hearst, K.C.M.G., Prime Minister of Ontario; N. W. Rowell, Esq., K.C., Leader of the Opposition; Secretary: Albert H. Abbott, Esq., Ph.D.

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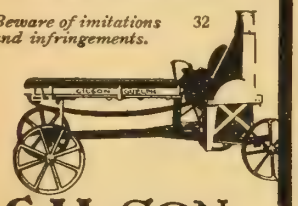

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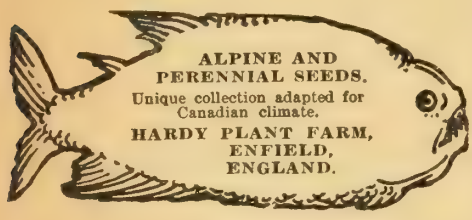

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Dealing With Alien Enemy

J.P., British Columbia.—Three months before the war commenced I arranged to buy a piece of land from a German On the 4th August, 1914, *I made my first payment on the purchase price. Two days later the German left Canada and went to the United States. I still owe him the balance of the purchase price, which he says I can pay him after the war is over. He has not paid the land taxes, but I have done so until now. Am I correct in not paying the German any money since he left the country? If I let the taxes go unpaid, can I get a tax title to the land?*

Answer.—It would be a criminal offence to pay any money to the German in question. He is an alien enemy, and if you paid him any money you would be trading with an alien enemy. You could let the taxes go unpaid and buy it for taxes, providing that some one else did not outbid you, however, this would not bar the title to the land which is vested in the German. His rights are suspended during the war, but after the war is over his rights will be revived. The law makes provision, that the time during which we are at war with another nation, is no time at all in the eyes of the law. The day on which peace is declared will be the next day after the war was declared, according to the theory of the law. I might mention in passing that you should pay the taxes yourself, and if you fail so to do and you let the land be sold for taxes, it is only your interest in the land that will be sold. The interest which the German has in the land will not be affected in any way during the war. His interests, rights and liabilities will be the same on the day that peace is declared as they were on the day that war was declared, notwithstanding anything which may take place during the war.—W. E. Lear.

Mosquitoes Troublesome

We in the lower Fraser Valley are very much annoyed with the mosquito during the flooding of the Fraser River in July.

During flood period all the low places, flats and pockets, fill up and become stagnant. These are the breeding places. They come in clouds some days; in certain years, but every year is bad. They have a decided sharp sting, which I believe is poisonous to some extent. The farmer and rancher suffer most, because they are very bad at time of his berry picking Stock suffer horribly, dairy dropping about 50% in milk flow. Horses sometimes run away, etc., and I have seen the chickens dancing like Irishmen at a jig.

Now what can be done? I have gone to the municipal authorities and been laughed at. Some good souls did put out some black oil on some of those sloughs, but others (and these had the most stagnant water) refused to allow this oil to be put on.

Is there any law by which we can compel either all the municipalities or the Provincial Government to take the matter up. I placed this matter before the "Montreal Witness" last summer and courteously got no reply. Will you please go a little better. It has become, or is, an annual nuisance.

Answer.—We are unable to advise you further in your difficulty. There is no law compelling the municipality to do anything except remove a nuisance from some particular offending spot. Perhaps some reader can.

Kilts Wanted

D.C., Ontario.—Where can I get a suit of kilts for men, and boy's size, and the cost?

Answer.—Write to John Catto & Son, King St. E., Toronto. They will make up suits for you at prices varying as to quality and accessories required.

Weight of Turnip

G.W.S., Ontario.—We have been buying turnips this winter at 50 *lbs. to the bushel. The Public School Arithmetic quotes* 60 *lbs. to the bushel, but local dealers claim that the weight was changed to* 50 *lbs. a year or two ago. Which is correct?*

Answer.—The weight is now 50 lbs. to a bushel. On page 65 of the February issue of the FARMER'S MAGAZINE this information is given.

Baby Chicks

J.B O., Ontario.—Could you give me some information in regard to the selling of baby chicks? Is it a profitable branch of poultry? If eggs sell for $5 *per* 100, *what price would be right for chicks? How are they shipped? Does it take a special kind of box? And where can I get them?*

Answer.—This business was a large one last year. One man near me shipped 2,000 baby chicks last year. It is profitable as a specialty. But he is finding difficulty in getting reliable eggs this year. His price last year was 20 cents, but he has to charge more this year. They are shipped in special pasteboard boxes and may be secured from all dealers in poultry supplies in large centres.

The chick boxes contain small holes for ventilating purposes, allowing plenty of air without suffocating them. We would suggest you write some dealer in poultry supplies and secure his catalog, which will contain the information regarding baby chick boxes.

Getting a Line on Poor Cows in Alberta

As a demonstration of what can be accomplished by a careful dairyman, the following letter from a farmer at Olds, Alberta, will be of interest:

"I started to keep records about five years ago. The results were surprising, and the longer I kept at it the more interesting it got. The first thing I noticed was that at the least little disagreeable change of temperature, a cold rain, a snow flurry or a cold southeast wind, if the cows were kept in or had a shed to run in it made a difference according to the scales. Here are some other points: I never sprayed the cows for flies before I started weighing. Now I usually start to feed meal in the fall as soon as I notice by the scales that the yields are going down, and I also notice I am starting to feed a little earlier each fall. By watching all these things one gets the cows milking a longer period each season.

The last two years I have had several cows milk almost up to freshening time again, in fact two cows a year ago and one last spring were not dry at all, had a calf and went right on milking. This should not happen, but in these cases I did not know the cows' calving time exactly. I believe by weighing the milk and careful watching of details one can get the cows up to a high standard of milk production. I think the scales, instead of being a bother and taking too much time to weigh each cow's milk, are the best paying "cows" in the stable, with only three or four dollars invested. We milk from twenty to twenty-five cows as a rule. At first I weighed the milk after each milking and afterward only twice a week, but I soon got back to each milking again, for when one weighs it twice a week one does not notice any drop in the yield quickly enough.

"By weighing and testing the milk I have certaintly found out some very surprising things. I had a very rough-looking cow with long, coarse hair, about as rough a looking cow as you could find and I didn't pay much attention to her as a milker. At the end of the first year of weighing and testing, her average test for fat was four per cent., and she gave nine thousand pounds of milk, so I considered she was worth keeping for a while at least. Another large fat cow was in with a bunch I bought so I had to take her, but thought I would turn her over to the butcher. However, the scales told me I had better keep her, for she gave more milk on less feed than any cow I had and was fat enough for the butcher at any time. I also found out by the scales that different cows required different amounts of each kind of feed to get the most out of them. If you feed a cow what she likes best, whatever kind of meal it is the scales will soon tell you if she is making returns for it. The first year of testing the two best looking cows in the herd, and, as I thought good milkers, were turned off to the butcher. The best looking cow last year went to a dealer. The scales are sometimes a bad thing for the look of your herd, as they are no respecter of looks. The best lookers are not always the best payers, and I believe the money spent on a set of scales and a four-bottle testing machine is money well spent. Moreover, the time spent in this work has been very interesting as well as profitable."—W. McD. Tait.

ALASKA

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to this wonderful land of the north. Know the lure of its fjords, snow-capped mountains, blue-green glaciers, rivers and tumbling cascades, Indian villages and totem poles. Thrill with its awakening to a mighty commercial life.

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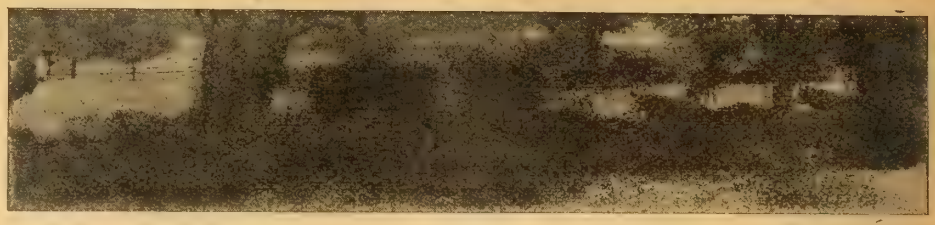

Manitoba's Large Elk Herd

"The people of Manitoba can feel a sense of proprietorship and pride in the reflection that they possess the largest herd of Elk deer, in their natural state, to be found in the Dominion of Canada, and possibly the North American continent." —Charles Barber.

Hogs and Sheep in Vancouver

Dr. Tolmie made the statement in the Board of Trade meeting in Victoria, B.C., lately that a carload of live hogs was imported every fortnight and delivered to Chinese farmers in the Colwood district, who fed them on swill and marketed them in Victoria. The Chinese maintained well-equipped, sanitary establishments and had worked up a profitable trade.

The difficulty of securing cheap land of sufficient acreage was held to be a drawback to successful sheep-raising on the Island by Dr. Tolmie, who said that if plenty of acreage was available there would be an increase in flocks, amounting to 100,000 head before the next fall of snow. With dressed mutton selling at 23½ cents a pound, and 41 and 45 cents being paid for wool the prospects were exceptionally good, provided the sheep-raiser could once get himself established.

Western U. S. Sheep Turnovers

George A. Findley, of Iowa, bought some 358 of Western feeding ewes last October. These averaged 94 lbs. and cost $6.25 per cwt. He sold them in Chicago last month for $12.50 per cwt. They averaged 112 lbs.

On getting these sheep home, Mr. Findley turned them out onto a field and let them graze and clean up weeds, etc., until about January 1st, when he put them into a feed lot and fed them ear corn with oil meal and clover hay. This makes a gross gain of over $3,000.

Prairie Steers Sell High

Wm. Rowe, of Carlyle, Sask., sold seven of his steers last month for $952, being an average of $136. A grade mare sold by hume Robertson, of the same place, brought $290.

$80 for a Fat Pig

Fred Gibson, of Ontario county, marketed a fat sow last month for which he received a cheque for $80.50.

Clydesdales Popular

James Duthie, of Hartney, Man., has sold his Clydesdale colt, Darnley, which won first in the two-year-old class at Brandon, to F. J. Stephens, of Kelwood for a goodly figure. Messrs. W. E. Anderson, of Myrtle, Jos. Lytle, Roland, and Andrew Graham, of Pomeroy, all of Manitoba, each sold two Clyde stallions to Roy Judson, of Alberta.

Ranch Business Popular

P. Burns & Co., of Calgary, have sold the Imperial Ranch, of 45,000 acres, near Drumheller, Alberta, to J. L. Waters, the livestock breeder of Clive. The price for this and 300 cattle was $175,000.

Shorthorns at Lethbridge

H. O. Rollag, of Lethbridge, recently took a carload of pure-bred Shorthorns from Clinton, Ontario, to his town, where they were sold by auction about the first of April at an average price of about $225. Farmers are buying the best of breeding stock that they can get.

Montana Sheep Die

J. L. Peacock has recently brought into Lethbridge, Alta., from Montana, some 2,500 breeding ewes for the ranches of Southern Alberta. He says the ranchers in Montana suffered big losses this year by reason of the scarcity of feed. He instances the case of one rancher with 6,200 three-year-old wethers which went into the winter in good shape. He has only 1,700 left, and they are dying off at the rate of 40 or 50 a day. Lack of feed, the range covered with snow and no signs of spring have disheartened many ranchers in the state to the south. Northern Montana is in better shape, but in many districts the average loss will be 25 per cent.

How U. S. Looks at It

We should develop our agricultural possibilities with a view to the future, says an exchange. Our corn and wheat, our cattle, hogs and sheep are going to be needed, and even should hostilities be of short duration, there would appear to be plenty of incentive at this time for grain and meat production, for verily we become more and more the universal soup kitchen of the fighting world!

The Large Black Pig

The Large Black has established its reputation, having been exported to nearly every part of the globe, where, in varied climates they have given every satisfaction. They are the best grazers of any breed, thriving wonderfully on any rough grass with a little food given in addition, and are thus particularly well adapted for keeping in herds in the open. In fact they are good under all conditions and have been described as the "ideal" pigs for all purposes. Their color, also, is an advantage, as it enables them to be fed in the open, without suffering from sunscald. Heat has no terrors for them.

At the Royal Show in 1914 when extremely hot weather was experienced, Large Blacks were the only breed that escaped without any casualties.—W. J. Wickison, London, Eng.

Mary's Lamb Gone Batty

The 12-cent steer, eating dollar corn,
On the 10-cent cow looked down with scorn.
Said the strutting pig, with loud pretense,
You're not so much, I'm worth 16 cets.
Then came the lamb, once sweet and shy,
That played with Mary in days gone by,
But now in words too rude to print
Declared he was worth the whole dern mint.

—Drovers' Telegram.

Wildcats Get Hogs

In the cane plantation country among the rivers and swamps in Little River county, Arkansas, near the Texas and Louisiana lines, hog raising is carried on in an unusual manner, according to Roy Goolsby, in an exchange. It is an open range territory where all hogs run at large. "We mark our hogs and turn them loose," Mr. Goolsby said. "If we get back half of them we are lucky. Sows are farrowing at all seasons. Wild cats are fond of the little pigs and get a great many of them, while thieves steal and drive away many hogs. Wild cats have many hiding places and are rarely killed. Trapping is about the only way of capturing them."

John Bright Is Dead.

The news of the death of John Bright, Live Stock Commissioner for Canada, comes as a shock to the many livestock men of Canada. A big, jovial, light-hearted farmer from Ontario County, he was admired as much for his kindness of manner and optimistic views as for his unfailing zeal in the interests of all livestock interests. He was only 51 years old, all too young a man to be lost to us.

—F.M.C.

Useful Pests

By F. E. MASBURN

THEY used to tell us that the fly was a harmless little creature that ate carrion, devoured germs in his travels, and in general, looked out for the welfare of the human race. In our boyhood days when screens were scarce we were inclined to doubt the benevolence of the insect, but nevertheless we took the word of the theologians that every creature in this world was put here for a purpose, and tried to believe what the scientists told us.

The farmer also learned that the rat was a persistent scavenger, and this pursuit prevented the dissemination of fevers and other plagues. It was hard to believe in the face of his devastated grain bins, and he set traps and staged rat hunts just the same.

Nevertheless, though we know to-day that the fly and the rat are not harmless, there are a number of living things which we call pests likewise that are wrongfully destroyed, because the good they do really outbalances the harm.

First on the list is our old enemy the skunk. Skunks are efficient in the destruction of mice and rats. The larger skunks are distributed over most of the territory occupied by field mice. Their chief food is insects, but mice are second in importance on their bill of fare.

Skunks not only search woods and meadows for mice but often come about barns and outbuildings in quest of the common mouse and brown rats. While it also is true that skunks sometimes destroy poultry, they do so much less frequently than is generally supposed. Comparatively few skunks learn to kill chickens, the habit being characteristic of the individual rather than of the species. Of thirty-six skunks whose stomachs were examined by the Biological Survey, two only—both captured in poultry houses—had eaten domestic fowls. None had destroyed game or small birds.

Growing grain, wheat, barley, rye and buckwheat are destroyed by field mice. Attacks begin with the sprouting grain and in the case of fall-sown wheat and rye continue throughout the entire winter. However, when only the blades of the plant are eaten, this winter consumption

A snake in the act of swallowing a rat. Most snakes are useful in ridding the wilds of other pests.

has but little effect upon the amount of grain subsequently harvested. Much greater damage is done when the grain is nearly mature as stalks are then cut down. After the grain ripens devastation by mice continues until after harvest, when the animals attack the shocked grain and even the stacks. The total amount of injury depends both on the number of animals present and on the length of time the grain is left in the shock. In these artificial shelters mice are perfectly at home and multiply with great rapidity, so that within a few weeks a pair of their progeny may ruin totally an entire shock of wheat or oats. Yet the skunk is killed systematically on the plea that he destroys game, and farmers have joined enthusiastically in the warfare against the so-called "vermin."

Other animals than the skunk that are known to feed upon field mice are badgers, raccoons, opossums, foxes, hawks, owls, and weasels. A few of these feed upon

The toad is one of the best fly traps we have.

mice habitually and this habit combined with their service in destroying insects, compensates in large measure for the injuries they inflict in other ways.

The bat is another unfortunate that has been placed in the undesirable class, and it is no uncommon thing for hunters returning from a day of sport to sharpen their shooting eye by taking shots at the common leatherwing bat, which begins to fly just before nightfall, or for large parties to journey to the fields in the vicinity of swamps and pump lead at the species commonly known as bull bats.

This is a pernicious practice, for the bat is the natural enemy of the mosquito. This flying rodent hunts its food through sense of hearing; it will follow a large moth around an electric light for some seconds before devouring it. The bat will attack only such insects as emit certain tones in their flight, and their dips, dives, and circles are made as its hearing brings it in range of some favorite insect.

The efficiency of bats in destroying mosquitoes has been proved by experiences at Mitchell Lake, a malarial locality some miles from San Antonio, Texas. All the sewage of San Antonio, some ten millions of gallons daily, flows into Mitchell Lake, and in the past it had been the breeding place of millions of mosquitoes. The locality is now entirely free from mosquitoes thanks to the mosquito-devouring bats that were encouraged to make their homes in specially constructed bar roosts.

An experiment made by C. H. R. Campbell, M.D., showed conclusively that bats are the foes of mosquitoes. Tens of thousands of mosquito eggs were placed in a tub of water, to which was added some organic matter to furnish food for the larvae. This tub was placed in a room, the doors and windows of which were screened. In the course of time all the eggs hatched out, and the room was filled with mosquitoes. At night after the mosquitoes had developed into adult insects, the buzzing noise could be plainly heard several feet from the room. On one occasion the doctor entered the room with a darkened electric flashlight and liberated two bats. Instantly the buzzing noise ceased, and on turning on the light it was found that the mosquitoes were clinging to the wall.

The vibrations of the mosquito wings cause the well-known sounds, and to protect itself from the bat, the mosquito must stop its flight. The bat is protected from the bites of the mosquitoes by the peculiar formation of its hair-covering, which instead of being a round shaft, like ordinary hair, consists of lances and pockets, like morning glories strung on a

Continued on page 78.

The Credit Man

EVERY big house, every well-ordered business concern doing big business with many customers spread over a wide territory, has a credit-man—someone who passes upon credits and watches customers' accounts. Perhaps this man is a principal. Perhaps he is an accountant. Perhaps he is an out-and-out Credit Man

This man must keep himself informed; must watch markets, market tendencies, general business conditions and world movements, because these have a direct or indirect effect on credits.

Also, this man, if he has the right sort of mind, sees how the purchasing department of the business with which he is connected is related to the broad world of finance. He sees, for example, how supplies and prices of raw material have their swift effect on the commodities his firm deals in; and he is guided, in his counsels, by this knowledge.

The worth or value or earning-power of this credit man can be made greater by his faithful reading each week of

THE FINANCIAL POST OF CANADA

ONE really wonders how any credit man in Canada can do without THE FINANCIAL POST; or why he does without it. It costs far more than its subscription price ($3.00) to do without it. And just think of the return for the $3.00 spent to have it arrive each week! It can help a credit man to acquire a greater value to those he serves; and therefore can help him to earn $5.00 a week, or $10.00 a week, or $20.00 a week, more to his salary. It depends on the man—not on THE FINANCIAL POST.

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Investments and Insurance

For the Farmer

Investing Our Cash

Many farmers, who are in close touch with financial agents, invest their surplus funds in second mortgages and even first mortgages on city property at high rates of interest. The turnover is very encouraging, but these high rates are always paid because of the element of risk incurred. The farmer who allows his moneys to be so invested must be prepared to watch the situation keenly, for many a loss of principal has taken place in such cases. So that one could hardly advise this way of handling our surplus earnings from the farms.

Just now there are many sound investments making a return of 5½ to 6½ per cent. These entail a minimum of risk and the payment of interest on the due dates is as certain as the day comes round. Such investments are war loans, municipal and mortgage debentures. First loans on farm mortgage security among the farms in one's own vicinity is also a good way of getting sure returns.

Farmers, who are not in the habit of saving or of keeping a bank account would do well to begin now. Prices are ruling high, economic conditions are in an abnormal state and no one knows just what the future may bring forth. It is therefore highly important for the individual's sake as well as working to the good of the country, that the saving habit be cultivated. We all waste far too much. There is no farm but can make savings along legitimate lines, if some extra attention were paid to the subject.

Perhaps no wiser investment can be made by the farmer than those expenditures that will render his farm more productive and his returns surer. Under this head come fertilizers, tillage implements, good seed, better live stock and the installation of water and lighting as well as fire protecting appliances. A man with a penchant for good live stock will find the payment of big sums for a pure-bred male of his desired type a paying investment. Another man will be able to feed three times the stock and carry twice the amount on his place by putting in labor-saving barn conveniences in feeding and water. Still another pays out hundreds of dollars in draining a farm, and finds his returns annually so much greater that it makes investments at 10% look cheap. And so it goes. The farmer must use his head. He must figure things out on a cold, calculating basis, looking ahead further than this year, as the business man who must look ahead for a period of years in his calculations. Plan wisely for big things and expect them, is a good motto.—M.H.

U.S. and Economy

It is already clear if the country is to meet the impending food crisis, and meet the rise in prices generally, it must get back to the elementary practices of economical iving; and in all directions, in fact, economy in expenditure will be forced upon the country if the war does not come to a speedy end. In this vast process there will be a re-distribution of wealth, as well as a general change in the standard of living, and changes of such a fundamental character cannot take place without affecting to the uttermost, in one way or another, the whole business life of the nation.—*The Springfield Republican.*

Fixing the Farmer's Prices

Both here and in the United States, politicians and some professors are urging the Government to fix a minimum price at which farmers must sell their products. Such a law or regulation may sometimes be necessary, but it is absurd, impractical and unjust at the present time. The farmer should be allowed to obtain the very highest market price for his products, so long as the allied world is his market, and just so long as we allow manufacturers, lumbermen, miners and fishermen to receive the market price for their products; and so long as we allow any combinations of shippers, dealers and manufacturers to control the market and fix the prices the consumer pays for their products.

When we limit the farmer to a price for his products he will decrease his output.

What we need is practical men at the head of national affairs, in our Trade, Labor and Agricultural Departments, in whom the farmers and the consumers have confidence. These men could secure co-operation and economical organization among the dealers, manufacturers and shippers and other handlers of food products to deliver them to consumers and our men at the front at the lowest possible prices. —*The Financial Post.*

You Fight Better

Life Insurance will make you sleep sounder at night. You will feel safe to launch out in directions you dare not think of otherwise. If you fall ill, the Doctor won't have a man sick with worry on his hands. It will teach and help you to save systematically, not the easiest thing in the world. The dollars you save are not idle, they are earning good interest. There is no investment so sound as Life Insurance.

Farmers with any problems about the investment of money, the reliability of firms, the standing of companies or the best places for money investment, can feel quite free to consult this department. We are in close touch with the staff of The Financial Post, the leading authority on financial matters in Canada, and the wealth of their knowledge will be at our readers' disposal. Letters will be answered privately if desired, or they can be answered in this column.
—Editor.

INSURANCE

Fires By Carelessness

The fire record for 1915 shows that of 1,625 fires reported, 676 were in the homes of our people. The great majority of these dwelling house fires occur at night, when the lives of the occupants are endangered.

From the 676 homes the greater portion of the families were turned out at night, in wintry weather. In these fires 141 lives were lost.

The chief cause of these home fires are: Carelessness in allowing defective chimneys to exist; carelessness in the overheating of stoves and furnaces; carelessness in the use of matches; carelessness in many other ways.

Carelessness with matches caused 69 fires last year; overheated stoves and furnaces, 51; defective and overheated chimneys, pipes, etc., 62; electrical defects, 55. These causes are all easily avoided and should be guarded against in future.

Homes should be made reasonably fire-safe by taking the simplest necessary precautions. Safety First is as essential in the home as at work.

Thresherman's Insurance

As every thresherman in Ontario knows, the old-line insurance companies will not carry risks on threshing outfits while on the road. That, most everyone feels, is just when insurance should be carried.

It was said that an Insurance Company allied with the Ontario Brotherhood of Threshermen was possible, if enough members and threshermen could be induced to carry insurance in such a company. The plan of assessment in a nut shell is as follows: A member agrees to take the stated amount of insurance, governed somewhat by the value of Machinery to be insured, and gives the Insurance Company a note to the amount of 6% of the full value of Insurance, that is a standard note, issued under the Ontario Insurance Act. As a payment on his note there are three fixed payments, one each year, each payment to the amount of 10% of the value of the note. If at any time this 10% of 6% of the value of the property insured does not cover costs of operation or losses, any amount can be further assessed on this note up to the value of the note.

—R.M.G.

To Farmers and Farmers' Sons

There is no class of men who deserve to enjoy the benefits of Life Insurance as much as farmers. There is certainly no class which needs it so much. The property a farmer leaves to his widow is usually in land, which as a rule, cannot be made to earn interest, no matter whether men are hired by the widow to work it or whether it is let to another farmer. The wealth of other classes is usually left in money or village property, which earns interest without any trouble. The widow of a farmer is, therefore, under a serious disadvantage, even if she owes nothing on the farm in the form of a mortgage. When there is a mortgage the property is surely lost, unless she has

How to obtain a safe and certain 5% for your savings in place of the usual 3%.

To increase the rate of interest earned by your savings is to increase the savings themselves in a very marked way. Thus, if you save $100 every six months for 10 years, at the end of that time you would have $2,618.33 if invested at 5 per cent., but only $2,347.05 if invested at 3 per cent.

That is, while the yearly amount saved is the same in both cases, the higher rate of interest has added over $271.00 to your capital.

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"I WILL INSURE NEXT YEAR"—

Very few men deliberately refuse to carry Life Insurance. In nine cases out of ten the man whose life is unprotected believes in Insurance, intends to insure—but procrastinates. "I will insure next year," he says, forgetting that if only one could count upon "next year" there would be no need for Life Insurance.

The Great-West Life Policies are issued on terms so attractive that there is no sound reason for anyone to delay taking out a Policy. Plans are available to meet every need and circumstance, and premiums may be paid annually, half-yearly, quarterly or monthly, to suit the convenience of the insured.

Ask for personal rates—giving date of birth.

THE GREAT-WEST LIFE ASSURANCE COMPANY
DEPT. "W" Head Office—WINNIPEG

the insurance money to pay the mortgage off. The fact is, and everybody knows it, $2,000 in cash will give a widow more comfort and income than a $5,000 farm.

Fortunately there is no class which is in so good a position to avail themselves of this benefit as farmers. The professlonal man, the business man and the mechanic are liable to have their incomes cut off at a moment's notice, whereas the farmer's income, although perhaps sional man, the business man and the methere's the rub—"if he lives."

It is surely not necessary to dwell on the benefits of Life Insurance. We shall only give a quotation from the late Rev. Sam Jones, the noted American Evangelist:—

"Is it not well that the pale wife who has watched you and your children in sickness and in health, and who seals with her white and tender hands your eyes in death should be unprovided for after you have passed away. It is absolutely in your power to prevent her suffering; it is your duty to do so. A man's highest ambition in life, next to the salvation of his soul, should be to provide for those whom God has committed to him, not only while he lives, but after his arm is paralyzed in death."

New York Life Co.

E.D.H., British Columbia.—I have of late noticed what you consider safe investments for farmers, and among them you advise life insurance, using 15 or 20-year policies. I have a policy and I have been paying for, I think, seventeen years in the New York Life. I am sending you a clipping I cut out of a Vancouver paper; you will see what it contains. I would like to have your opinion as to the effect it will have on policyholders.

Answer. — This clipping, which is a despatch from Holland, speaks of the possibility of the New York Life losing its investments in Berlin, Germany. We may say for the benefit of our subscriber that the New York Life is the largest life insurance company in the world, doing business under the supervision of 82 different governments. Its financial statement shows assets of 866 millions and liabilities of 728 millions. Their funds are invested in bonds, war loans and real estate mortgages. They report a business up to the limit in U.S. and Canada. Their property in Germany will not be lost, only the earnings on it will cease during the war; but their greatest European holdings are in France. You need have no fear on your policy.

Useful Pests

Continued from page 75.

straw, with the edges of the flowers terminating in points and the bells outward.

An insect that boys delight to attack and exterminate is the wasp. Yet, wasps are foes to injurious insects. They hunt commonly upon the ground or in trees and shrubs for caterpillars and other insects that serve as food. Cutworms, army worms, gypsy moth caterpillars, and leaf-feeding larvae are especially likely to be caught by them. Wasps build paper nests in which the young are reared, being largely fed with various insects that the worker wasp catches for them. The wasps provision their cells and burrows with flies, grasshoppers, caterpillars, and other insects. The victims are paralyzed by the sting of the wasp, so that they lie helpless in the cell in which the egg is laid.

The ugly appearance of the toad is largely responsible for its unpopularity, and a well aimed stone has ended the life of many of these useful creatures. No poison or venom apparatus exists in this creature, notwithstanding the popular superstition about warts, and save that the secretions of the skin may be of an acrid or irritant nature when brought in contact with cut or exposed surfaces, the toad is utterly harmless. Living on flies and insects, the toad serves a very useful purpose. He can easily be tamed, and kept in a garden or playhouse.

Even a good word now may be said for the crow. The most important charges that are brought against him are that he injures corn "in the milk"; that he pulls sprouting corn; that he destroys cultivated fruits and that he feeds on the eggs and young of poultry and wild birds. Of all these charges, the crow stands convicted, since he does feed upon the substances named, but the extent to which he is guilty is a different matter. In order to determine whether the sum of the harm done by the crow outweighs the sum total of the good rendered the farmer, the Department of Agriculture, after examination of the stomachs of a large number of crows, compiled statistics, reduced the different kinds of food found to quantitative percentages, and contrasted them. The crow generally is credited as being very destructive to corn crops, but the figures show that the total quantity of corn eaten by this bird in a year amounts to but twenty-five per cent. of the food consumed by him, and only nine and three-tenths per cent. of the diet of young crows.

Admitting that the crow has bad habits, he must, on the other hand, be credited with the good done in destroying injurious insects, since twenty-six per cent. of his food is made up of insects, the great majority of these insects being grasshoppers, May beetles, cutworms, and other destructive kinds.

The snake is a universal symbol of the fearful and the abhorrent. Even the harmless garter which preys upon field mice and other pestiferous rodents of the fields, is shown no mercy. Despite this, one snake in particular is coming into his own—the king snake. He is a non-poisonous reptile that is so useful in keeping away small four-footed pests, that some farmers keep him about their barns and premises. This is a proof that the work of the Department of Agriculture in disseminating informative scientific literature is by no means in vain.

Egg Circles

The Egg Circle at Oakwood in Victoria County was the second largest in Ontario; Lansdowne coming first with 115 members and Oakwood with 80. Total shipments from the Lansdowne Circle were 49,859 dozen and from Oakwood 31,126 dozen. Lansdowne sent 52 shipments, or one a week, whereas Oakwood only sent 43, having discontinued shipping through the slack season in winter. There was a total gain to members over the store prices of nearly $425. This is an encouraging report as this circle was up till a year ago in January almost down and out.—O.A.K.

The committee for the Onondaga Horse Breeders' Club in Brant Co., Ont., found there were practically as many in favor of the Percheron as the Clydesdale horse and the result was they decided to have the two horses travel the district under the assistance offered by the Department. —R.S.

The Sparrow Killing Contest, conducted by Brantford Junior Farmers, showed that the one side had killed 470 sparrows and the other side 300 sparrows. The losing side is to provide a programme for a picnic to be held in June.—R.S.

Turnips in Nova Scotia. It will pay to sow a good acreage this year.

FARM NOTES.

Did you notice how Purtelle and Leaven's cattle sold at Belleville? They were beauties.

J. A. Pettit, of Burlington, says that good Shorthorn cows are going to be scarcer.

Kerr and Davidson, Shorthorn breeders of Ashburn, Ont., lost their herds and big barns by fire recently.

Geo. Jackson, of Port Perry, reports a most successful year of sales. He is one of our best auctioneers.

The late John Bright carried on his big farm at Myrtle for many years. His was one of the first steel barns to be erected in Ontario.

The Hamilton Asylum farm used caustic to destroy the horn growth in their dairy calves. It is a simple and painless way of doing the job.

Gordon Morhard, of the W. L. Shaw Farm at Newmarket, has several cows under test. He looks for some big records this year. The Het Loo herd is with him.

Dr. English, of the Provincial Farm, at the Hospital for the Insane at Hamilton, believes in keeping his herds in good condition. The stables are kept in perfect order.

A trip through the shipping sheds and grounds of the big E. D. Smith & Son's Nurseries, at Winona, will interest anyone. The care that is taken with trees, grafts, and varieties, is what strikes the visitor.

A. A. Colwill, of Newcastle, who recently sold his surplus Tamworths and Shorthorns , has also a very promising young apple orchard about bearing. A block of young McIntosh trees will soon be bearing also.

John Flatt, of Milgrove, who has been in charge of the Hamilton Dairy during the acute labor shortage, hopes to go to England after the war for a shipment of pure-bred hogs. John believes in the bacon type Yorkshire.

J. E. Brethour, of Burford, Ont., has had the greatest demand of his lifetime for pure-bred Yorkshires. He ships out several weekly at almost any price he cares to name. But J. E. is fair in that matter. It is expected that hogs will be 20 cents a lb. on the market.

The Belleville District Holstein Breeders' Association had a most successful sale at Belleville in April. It was their seventh annual sale, and big dairy men from all over Eastern Canada were present The men who contributed were Messrs. Purtelle & Leavens, D. B. Tracy, J. M. Brancombe, W. H. Finkle, C. B. Bonisteel , A. E. Phillips, J. M. Joyce, W. A. Hubbs, W. R. Shields & Son, Peter Cove, Geo. D. Wright, Elmer Craig and John Clive. This district is regarded as one of the premier places in Canada for performance quality of dairy cattle. Purtelle and Leavens secured the best prices, this stock being in fine shape, from producers, many with big records, and well advertised. It all paid.

The worker bee is happy because it believes in the gospel of work.

Bees are good judges of human nature and many people are afraid of them!

Why not advertise your honey, offering to ship it by parcel post or express in neat packages.

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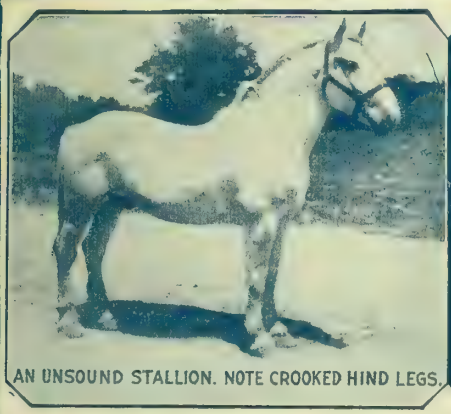


AN UNSOUND STALLION. NOTE CROOKED HIND LEGS.

THE SCRUB SIRE must go

IT PAYS TO BREED FOR QUALITY AND SUBSTANCE.

The Scrub Sire is the Great Menace to the Development of Ontario's Live Stock Industry

Look at the market toppers in beef classes. Study the prize-winning bacon pigs and the high producing dairy cows. Consider the horses with clean, strong limbs and strongly muscled bodies. Are they the progeny of scrub sires? If not, then why tolerate them?

Throughout North America stallions are inspected and licensed to emphasize the value of the pure bred. If America places a high value on the pure bred horse, and the same natural law prevails in all classes of stock, should not the stock-raiser place similar emphasis on all stock, without legal restrictions?

THE SCRUB SIRE IS EASILY RECOGNIZED

He may be an animal which lacks breeding, has faulty conformation and no individuality.

Or an animal with good conformation but no breeding. He is not a sure getter. The progeny will lack uniformity. Or he may have a pedigree, but may lack in vigor and in conformation.

Why do Ontario stockmen and Argentine ranchers buy large numbers of pure bred stock in Great Britain? Because:—They are shrewd business men. They understand the natural law, "Like tends to produce like." They know Great Britain has the best because the British stockmen have for generations used the best pure bred sires obtainable. They know that stock from sires which have a line of pure bred ancestry for generations will be uniform in size, of good quality, and true to type.

SOME RESULTS OF GOOD BREEDING

The milk records of 56 grade cows in a certain Ontario herd were kept from 1895 until 1907, and a pure bred bull only was used during the period.

Very few cows were purchased, the females being reared and retained in the herd. In 1895 the herd average was 3,600 lbs. per cow per year. In 1907 this average had risen to 8,006 lbs. The records show a gradual increase year by year. What others have done, you can do.

The average production per cow in Ontario is about 4,000 lbs. annually. Many give more, but the scrub cows which are the progeny of scrub sires reduce the average; if the scrub cows were reduced in number then the average production would soon reach 6,000 lbs. or 8,000 lbs. per annum.

HERE'S ANOTHER RESULT

In one section 12 pure bred rams were purchased, but several grades were also used. Careful comparisons were made. When the lambs were sold 12 lbs. per lamb extra was credited to the use of the pure breds. The rams cost $15 each. Ask yourself: Was it a good investment?

Is it any wonder that successful stock raisers insistently demand pedigree, type, vigor and individuality in stock sires—they know that "like tends to produce like." They realize that the labor is just as great, the food consumed is the same, but the returns are much less.

SELL THE SCRUB

If you own a scrub sire, sell him while the prices for meat is high. Buy a good pure bred. An animal which looks cheap and has a cheap pedigree is dear at any price. The real value of an animal should be estimated by its earning power, either as a producer of dairy products or meat, or as a breeder of stock.

Co-operate with nature by eliminating the Scrub. Buy a good animal and give natural law an opportunity to assist you rather than to retard your progress. Aim for Quality and Quantity and "Feed, Breed and Weed."

THE MENACE TO ONTARIO'S CATTLE INDUSTRY. DON'T USE HIM.

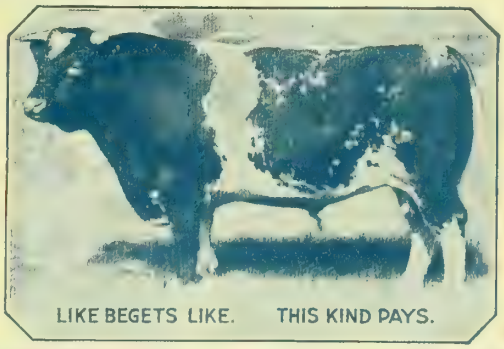
ONTARIO

Ontario Department of Agriculture

Parliament Bldgs., Toronto

SIR WM. H. HEARST,
Minister of Agriculture

G. C. CREELMAN,
Commissioner of Agriculture



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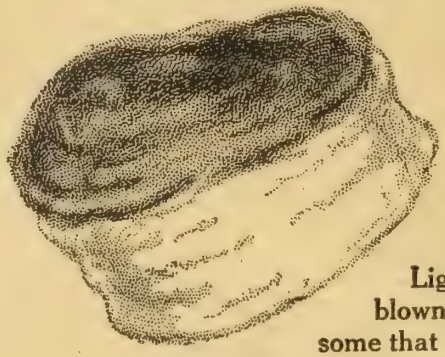

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THE
FARMER'S MAGAZINE

JOSEPH MCGOEY - - Manager
F. M. CHAPMAN - Managing Editor

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The Businessman's Mind

BANKERS are supposed to have a particular character of mind; Lawyers and Doctors likewise; Teachers also. These minds have both narrowness and breadth. They see widely and deeply in their own realms, and narrowly and sometimes shallowly in regard to matters outside their particular worlds. At least, this is the common supposition.

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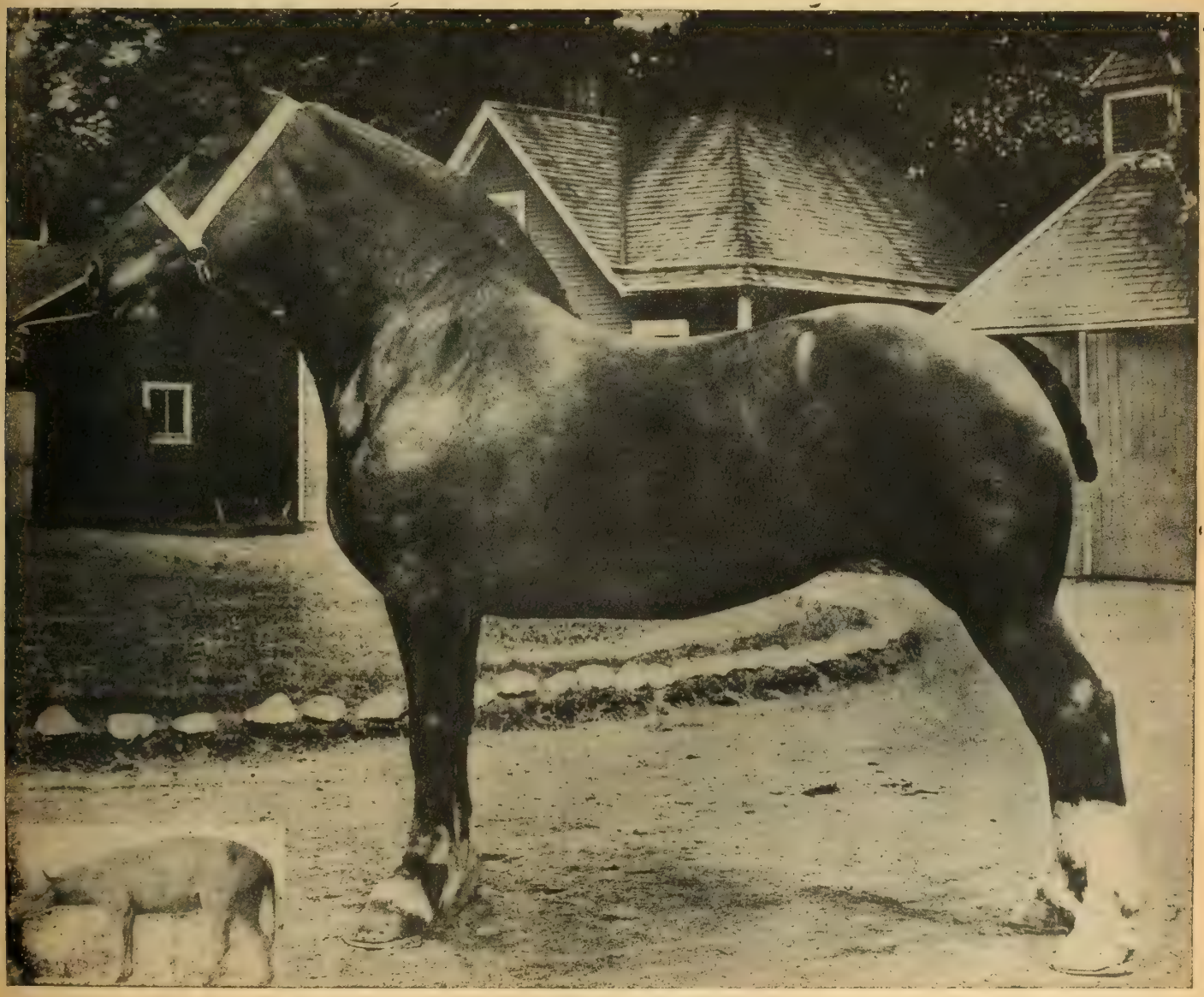
The FARMER'S MAGAZINE

Volume X TORONTO, JUNE, 1917 Number 8

The Evolution of the Horse

WHILE some animals have undergone practically no change in a hundred million years or more there are other brutes that have in a very short time undergone a great change that is by comparison. No case of this sort is better known than that of the horse, who has altered in the last three or four million years in almost every way that a mammal can alter, says the *Journal of Genetics*. It further appears that the development was not at all uniform during this time; there would be little changes for a long period and then rapid modifications would take place. The horse of the early Eocene is shown in the small insert below from fossil remains found in Mexico and lately restored by the U.S. National Museum. This Eohippus, as it is called, was about 14 inches high in the shoulders and had four well-formed toes with a vestige of a fifth toe. He probably lived around the marshes of lakes and pastured on grass. A Belgian mare photographed on the same scale is shown herewith for comparison. It is true, of course, that part of the evolution of the horse has been due in the last two thousand years to selections by man. This has brought about much of the increase in size.



Silos Make for Thrift

An Epidemic of Silo Building Should Break Out Now Throughout Canada

Wooden Silos

A Good Argument by One Farmer for Stave Silos.

By JOHN MARTIN

AS THIS is a season of the year when farmers are erecting or thinking of erecting silos, a few observations on the subject may be timely. Last year a new silo, 12 x 36, was put up on Brookside Farm. For quite a long time previous a careful and fairly exhaustive study of the merits of cement versus stave silos was made. Finally, when all the evidence was in, a stave structure twelve feet in diameter and thirty feet high with six feet of concrete below the ground level was decided on.

The silo purchased was factory made with a roof. My observation of silos convinced me that a roof is pretty nearly half the silo, and my experience has emphasized it. Not only is the inconvenience and loss of time in throwing out snow after every winter's storm saved, but much freezing of silage is avoided and its food value is thereby increased.

My investigations into the merits and demerits of wood against concrete caused me to lean towards a stave silo almost from the start. But what caused me to finally decide on wood as the material was a report on the subject which I obtained from the Storrs Experiment Station of Connecticut. The Storrs Station made a close study of the fermentation processes in the silo for a period of five years. The experts found that there are two acids which develop during the curing process of silage—lactic acid and acetic acid. These acids serve not only as a preservative, but also as an acid to digestion and as a tonic. The development of these acids is favored by high temperature, which is essential to the perfect preservation of silage. The requirements for the proper curing of silage are: Correct temperature and lack of air. The development of heat is spontaneous. The lack of air is obtained by close packing, pressure of the silage and air-tight walls. All these factors, the Storrs Station told me, are automatic, and "are produced to perfection in a properly constructed stave silo."

In determining the curing of silage by different temperatures the experimenters gave data on the benefit derived by the higher temperatures and concluded with the following quotation:

"This experiment explains why silage does not keep as well in cement, stone or brick silos. Cement, stone or brick conduct away the heat generated and the acid fermentation is checked, unless the temperature of the air at siloing time is much warmer than normal. Another factor is that cement and brick are porous and allow the silage to get air, which causes it to spoil. The appearance of silage is not a complete guide as to its quality. It may appear to keep perfectly at the edges of a cement silo, but acid and chemical tests are necessary to prove that it is a normal silage. The odor of the silage is the next best test."

In testing the silage produced by different kinds of silos they gave the following comment, to explain the reasons why wood makes the best material for preserving silage:

"In the first place, wood is a poor conductor of heat. It conserves the warm temperature at the beginning of fermentation, so that the proper acids are formed, and prevents largely the freezing of silage. Secondly, silage keeps best against wood and nothing is lost around the edges. In some cement silos quite a loss of silage is experienced at the edges."

Tests of conduction by using a silo having a number of different materials in the wall, alternating wood, stone and brick gave the investigators a good opportunity to note the bacterial changes which take place, as enforced by heat or cold.

"When silage comes into contact with the brick or the cemented surface of the stone and the brick," the Station concludes, "the heat generated by fermentation is conducted away so rapidly that the temperature does not rise to the height necessary to prevent the development of the organisms of putrefaction, of perhaps the temperature does not rise to a height sufficient to cause the best development of the organisms of fermentation and to prevent thereby the organisms of putrefaction. The preservation of ensilage may require the development of certain organisms which, by the very fact of their development, retard and prevent the growth of organisms which would be detrimental."

To back up the findings of the Storrs Station I also had the opinion of no less an authority than Prof. W. A. Henry, of the Wisconsin Station, author of that invaluable farmer's book, "Feeds and Feeding."

We present here two typical arguments by partisans of each style of silo. The farmer must judge for himself which his circumstances best demand.—Editor.

A stave silo 12 x 36 with 6 feet of concrete below the ground on the Watt Farm, Elora.

"Probably few stone silos will be built in the future," said Prof. Henry, "as experience shows that a stone wall chills the ensilage during the curing process, and, if it does not seriously injure that portion next to it, to a thickness of several inches, it renders it, at least, less palatable than ensilage nearer to the middle of the silo. The reason, in my judgment, that the silo has not won more friends in the Eastern States is owing to the common use of stone in its construction. On our experimental farm our first silo, built in 1881, was of stone, and our conclusions in regard to ensilage were made up from results obtained from that silo. Had we put up a wooden silo I am confident our results would have been worth vastly more to our people than they have been."

Such were the conclusions which led to the constructions of a stave silo at Brookside Farm.

Now for our own experience. The silo was filled from a six-acre field, so the crop was good. The corn was not exactly at the point of ripeness I would have liked to see it—a few days more of ripening would have been better. It was a trifle too sappy. This condition was aggravated by a break down of the corn binder, which was timed to do its work a day ahead of filling. The blower arrived on schedule time and I had to put two binders in the field on the morning of filling. There was no chance for any evaporation of moisture. The corn wasn't even wilted. Consequently a little sap accumulated at the bottom of the silo. But I had taken the advice of Mr. John Fixter, of the Department of Conservation, whom I used to know when he was farm foreman at the Central Experimental Farm, Ottawa, and when I was in newspaper work at the Capital, and had omitted the cement bottom, which I now believe is too commonly put into silos. The excessive liquid was, therefore, able to percolate into the sub-

THE BATTLEMENTS OF THRIFT

The silo has proved its right to rise about all farms. It stands in the landscape as a sign of agricultural foresightedness. And never in the history of feeds has there been greater need for it than now. Corn planting has been begun and more will follow all this month. There is no method of dry curing a crop which is so efficient as the silo. At least 90 per cent. of the feed value of the crop will be saved if it is put in a silo. That fact is beyond all question with good farmers now. An increased corn crop in Canada and a vigorous campaign for silos at once, will preserve more cattle feeding, more dairy products, more stability for Canada and this continent and save possibly the situation to the Allies.

KING CORN REIGNS SUPREME

Corn has made the Great Middle West of the United States. Ensilage corn is enriching miles of Canada as it creeps northward in its beneficent sway. Ever since the silo followed in its wake the acceleration of King Corn has gone on tremendously. June and July are the months for cultivation. The corn root is the mouth of the corn plant as its food is collected from the soil and fed through the roots. It is therefore necessary to take care of the roots. Any method of cultivation that destroys portions of the root system is disastrous to the corn plant. As to the two first cultivations corn may be cultivated deeply, but after that the cultivation should not exceed 2 inches in depth.

soil, which in our case is pretty nearly hardpan.

Better silage seldom came from a silo. There was scarcely a forkful of mold all the way down, until—ah, until we reached the cement! Suddenly I noticed a slight difference in the aroma of the silage and commented on it to the man who threw it out.

"Well," he said, "I fancied I smelled something different myself, and I kind of wondered if the cement made any difference, for I got down to the cement yesterday."

There was unquestionably a difference, which became more pronounced as we got a foot or so farther down. The cows quickly detected it. Instead of greedily grabbing a mouthful of the first silage that reached their mangers, they muzzled it over a little as if questioning our honesty and strongly suspecting substitution. They continued this attitude right to the bottom of the silo, although they cleaned it all up and maintained their thriftiness until they were turned into the pasture, May 22nd.

This forces me to the conclusion that the Storrs Station was right and Prof. Henry was right about the superiority of wood for the construction of silos. The concrete wall in ours was a foot thick, it was mixed by a power mixer, ample cement and fine gravel of good quality was used and it was put in by an expert mechanic who has built many silos. There was no faultiness of construction; but the cows said there was faultiness somewhere in the silage, and cows are expert judges.

I pass this on for what it is worth to brother farmers, who may be glad to find some points which it cost me considerable time and trouble to get together. But I feel that after all my efforts and studies I got the thing about right, and if I had a dozen silos to build I know of what material they would be built.

And War Revenues

As a Cure for Poor-Paying Farms and Low-Producing Herds

Cement Silos

Durability, Low Upkeep, Safety From Fire are Strong Points.

By JOHN JAMES

LIKE a glass fruit jar, a silo must be water-tight and jointless to keep the silage from moulding or "dry firing." For this reason, and also because no painting or repairing is ever necessary, solid-wall silos are coming into general use.

The best silos are built circular in shape. The size depends upon how many animals are to be fed daily, the quantity in pounds for each animal's daily feed, and the number of days it may be necessary to feed them. The silo should be of such size that a layer of silage at least 2 inches in depth will be removed each day after feeding has begun. This prevents a thin top layer from moulding. A dairy cow requires about 40 pounds of silage per day, and the following table is based on this amount. Forty pounds is also the average weight of a cubic foot of silage.

It is frequently advisable to cut down the average daily ration or to use silage together with other feeds. With this thought in mind, and especially for dry weather feeding in summer, many farmers find it best to build two silos of moderate size instead of one large structure.

Concrete and hollow tile silos are permanent fixtures and need no painting.

Locate the silo where it will be convenient to feeding. Usually it is joined to the barn by means of a chute and passageway with doors. Since the silo and its contents are heavy, it must be built on solid ground. The bottom of the foundation should go below frost line. The silo may, with advantage, extend 4 to 5 feet into the ground. Dig the pit large enough to allow for the thickness of the circular walls and a footing 2 feet wide.

FEED FOR 180 DAYS

No. of Cows in Herd	Est. Ton. Silage Con. Tons	Size of Silo Diam. Feet	Size of Silo Hght. Feet	Corn ac. req'd 15 tons to Acre Acres
10	36	10	25	2½
12	43	10	28	3
15	54	11	29	4
20	72	12	32	5
25	90	13	33	6
30	108	14	34	7½
35	126	15	34	8½
40	144	16	35	10½
45	162	16	37	11
50	180	17	37	12
60	216	18	39	14½
70	252	19	40	17

MAKING THE FORMS

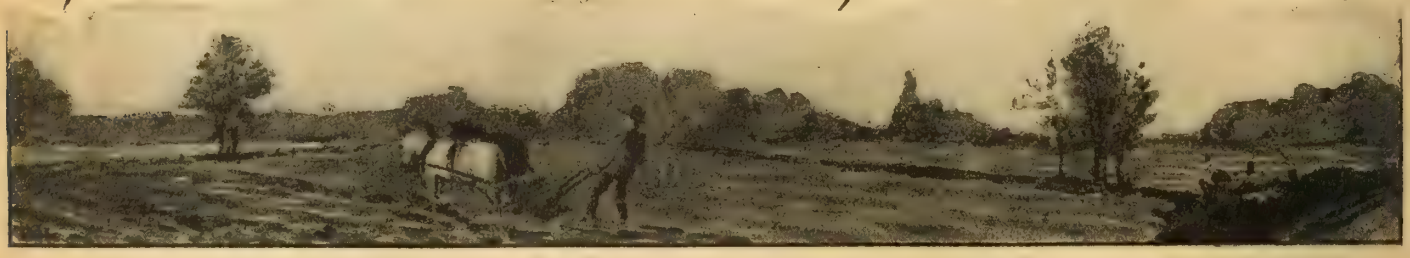
In order to save lumber the concrete is poured into forms which can be moved up as the concrete sets or becomes hard. These movable forms consist of two circular shells 3 to 4 ft. high, so made that one fits within the other with space between for a 6-inch wall. The horizontal framework consists of 2- by 4-inch timbers cut to a circle, which are covered with sheet metal or wooden lagging. Each piece must be long enough to provide for a 6-foot 3-inch length of the circumference of the circle as well as several inches for the lap or strap joints. The forms are raised by loosening them at the joints and setting them up again on the finished section of the silo.

Concrete for silos should be rich in Portland cement and should be put into the forms mushy wet. Mix in one part cement to 2 parts sand to 4 parts crushed rock. Four parts of clean pit or bank-run gravel may be used instead of the sand and rock. Measure all materials on the basis that one bag of cement equals one cubic foot. Many persons raise the concrete in buckets, but the work can be done more quickly and easily by using a horse together with a derrick or a well braced jib-boom fixed to an adjoining building.

THE COST OF CONCRETE SILOS

The list of materials required for this silo is given below together with a very liberal estimate of the cost of the same. The silo was built by five farm laborers in thirteen days. As a raise was made each day, the four extra days were spent in framing the forms, digging the pit and building the roof. The owner used gravel from his own farm pit instead of stone and sand.

Practical Field Methods



Crown Lands in B.C.

Hon. John Oliver, Minister of Agriculture in British Columbia, is paying some attention to a readjustment of their homestead laws. Because of the narrow strips of fertile soil in the many valleys of B.C. the ordinary way of dealing with farm allotments does not prove to be the best. The Quebec ribbon system may have some lessons in it for them.

The 50-Pound Cow

Segis Fayne Johanna has passed the 50-pound mark. In doing so she has attained what was considered, a few years ago, the unattainable. We must all take off our hats to such a remarkable performance. We give due credit to the cow and her herdsman. But is not the present, with a new and wonderful seven-day record before us, an opportune time to again inquire into the real value of the seven-day test.

Take the case of Segis Fayne Johanna. She is a good cow and would have milked well and profitably, right up to a month or six weeks of freshening; the period to which commercial cows are expected to milk. But she was dried off a full three months before freshening. During the dry period she ran up her weight from 1450 lbs., her normal weight, to 1900 lbs. She freshened, therefore, abnormally fat. She proceded to milk this fat into her milk. Her test for her seven-day period was 5.547 and for her 14-day period 5.235. This test was the most abnormal feature of the performance of Segis Fayne Johanna. Such a test is due more to the manipulation of a skilled herdsman than to the inherent powers of the cow herself. Such a percentage of fat could be maintained even by the best of handling only for a few days or a few weeks and the seven-day record is, therefore, not a true indication of the commercial value of the cow. And as breeding value is based on commercial value, abnormal seven-day test work cannot be considered of as great value as the attention it attracts would lead one to imagine. A recent investigation of records of Holstein cows in the United States that have qualified for registry in both seven-day and yearly divisions showed that, as a general rule, the cow capable of making a great seven-day record also showed up well in the yearly division, but that the yearly record was not even roughly in proportion to the seven days' production. In fact, the 25-pound cow and the 30-pound cow were generally in much the same class in yearly work, in not a few cases the former excelling. The seven-day test has been of incalculable value to the Holstein breed, but from now on its importance must decline in favor of the more convincing yearly demonstration of milk-producing power.—F.E.E.

Plantings in June

Sow swede turnips about the 20th inst. They will be a paying crop. Seed is scarce and worth about 75 cents a lb. Sow about 4 lbs. to the acre. It will pay to sow some land salt previous to ridging up.

Sow buckwheat any time from June 20 to July 5, according to local conditions of soil and likely weather conditions in September. A bushel to the acre is plenty of seed. Drill it in and have the seed bed in fine tilth. Sow all land not otherwise occupied.

For hay, sowings of millet can be made during the first three weeks of the month. 30 lbs. to the acre is seed enough. The Japanese Panicle Millet has given best results in Ontario. The average hay per acre for five years has been a little better than 4 tons.

For sheep and cattle pastures sow rape during the month and even the first week of July. Dwarf Essex rape is the best. But for pasture purposes, where livestock have no extensive grass run, it is well to mix millet with rape to prevent bloating.

The Hankering For the Soil

Six Point Bill, otherwise Big Bill Powell, writing in the last issue of *Printer and Publisher*, a monthly paper to newspaper men, says: Back to the land! I believe there are more farmers among printers than any other calling, except that of farming. Some years ago the union printers' organization of New York started a farm for its out-of-works on Long Island. The way the printers took to the soil was wonderful. Knowing that I personally had some experience, many typos ply me with questions about "back to the land." I like the land myself. Although city born, I'd rather watch a herd of Holsteins, or Ayrshires, or Durhams thrive than waste five minutes on a pink-tea presided over by a duchess. Again, a pure-bred Clydesdale of fine, flat bone, good symmetry, and sleek coat, appeals to me more than a race-track paddock of thoroughbreds, and like the gifted Geggie, I believe that one good Clyde horse is worth a dozen of the bang-tails that society goes mad over and wears pink-striped parasols and talcum powder. Back to the land is O.K., that is, if you beat the weeds to it. To be sure, you'll have a back-ache or two, and all that, but you'll have a clear conscience, and will mean what you say when you repeat this extract from the Sermon on the Mount: "Give us this day our daily bread."

Haying Hints

First and foremost, the haying implements should be thoroughly ready and set aside for business. The horserake and horsefork and mower and racks and wagons need to be looked over down to the last bolt and section. Hours will mean more than gold this haying, and fine hayfields have been ruined because some essential part has been lacking or has proven defective when most needed.

Further, the mows ought to be cleaned out to the last corner, as dust may harbor disease or vermin. If the roof is defective it should be patched or mended. A leaky roof before now has ruined many a fine cut of hay.

Experience has proven that it is a good rule to cut the hay after three o'clock in the afternoon. This practice allows the hay to fall on dry ground. A light shower or the dew will wet but one side of the swath, and will dry off before any damage is done to the hay. As soon as the dew is off, the tedder or other process of making the hay should begin. Making hay is a very different business from drying or bleaching it. The hay should be put up in carefully-made coils and left there till the first "sweat" is well over and then hauled to the barn. This year, when labor is scarce, many will be tempted to load the hay from the windrow. Care must be taken to have the hay, thus harvested, well made, as green hay may spoil in the mow, while over-dry hay is poor fodder. If hay is drawn in while damp, each load is all the better of a liberal sprinkling with salt.—A.K.

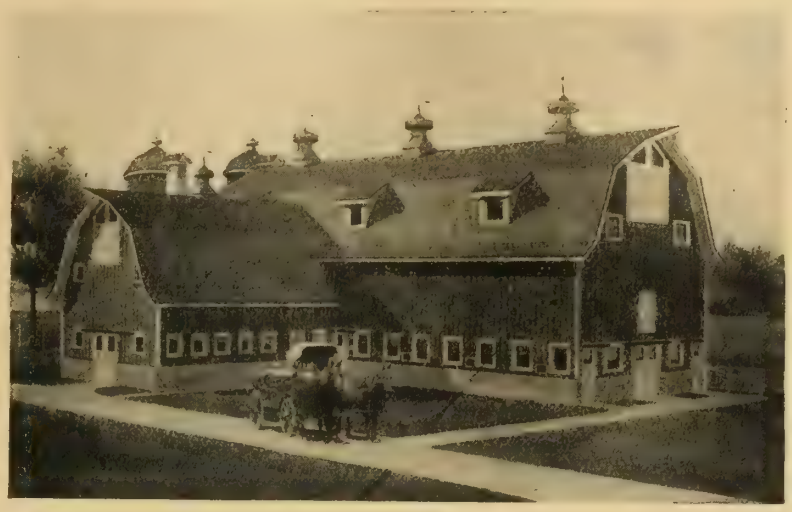
A Hundred Acres and Dairy Prosperity

Sensible Advice by a Practical Farmer on Starting Farming for Good Returns

By G. H. DACY

DOLLARS and dairying are becoming almost synonymous words in some farming sections where cow-milking is the major occupation of the soil-tillers. One can't help but respect the provident dairy cow. Give her half a chance and she will make good in transforming dairying into dollars. The pursuit of practical dairying also means added fertility to the farm. It is a roundabout way of making dairying spell dollars, but nevertheless it is a permanent way.

"Just give me one hundred acres, twenty cows, equipment and enough working capital to tide me over the critical period and I'd be happy," is a frequent comment of many farmers. And under such conditions they should succeed. Consider the thousands of countrymen who started in penniless working by the month or year and who saved their earnings, ultimately took up milk farming as they were able and to-day own and operate profitable places, There usually is intensive farming where the cow is popular. Unquestionably there is no other line of live stock farming which offers so attractive an opportunity to the farmer of limited finances than does milk farming.



A large combination dairy and horse barn as viewed from the house, showing the horse stable wing. Main section is 36 x 98 and stables 46 cows in stanchions in a double row, facing out. Horse barn wing is 30 x 36, and has 8 single stalls and 2 box stalls, besides harness room and office

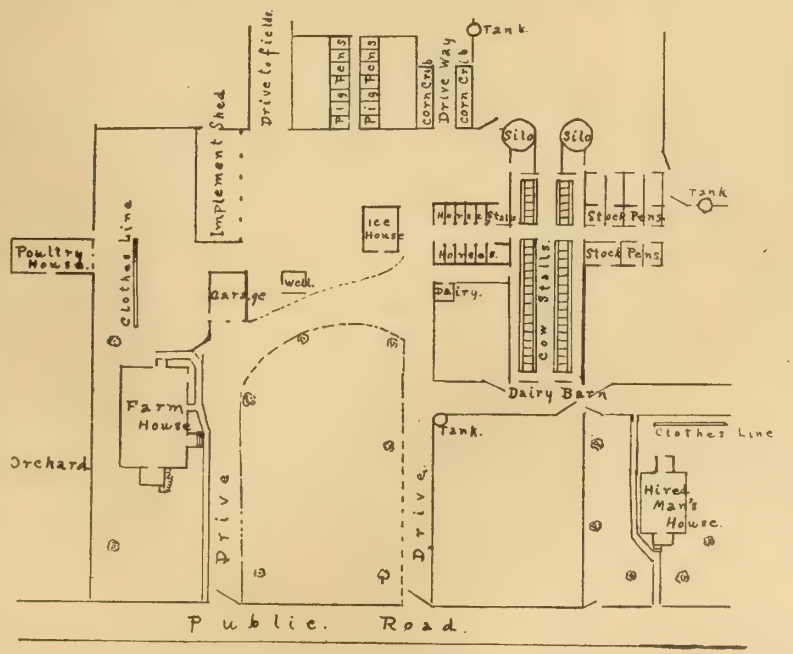
One hundred acres would be admirable for a dairy farm. Allowing four acres for farmstead yards, garden and orchard there would be left ninety-six acres which could be subdivided into four fields of twenty-four acres each so that a four-year rotation of corn, grain, grasses and clover could be practised. As nearly as possible the farm should be fenced into fields of equal size so that the rotation would be more efficient. Let us suppose that the farmer purchases one hundred acres of unimproved land which has has never been cropped, but which is rolling enough to drain well and which is only five miles from the railroad.

The first work will be to clear up the land, pull stumps, grub out bushes, and cut down surplus timber. Dependent on the density of the woodland and the general condition of the land it will cost from $10 to $25 per acre to get these fields in order for the plow. The next problem will be the fences. For permanency, woven wire is the cheapest and most sensible. Good cedar posts should be used. Barb wire is all right for temporary fences, but care should be exercised to set the corner and brace posts well in the ground and to stretch the wire tightly.

A SILO FIRST OF ALL

Right off the handle the dairyman needs a silo and it will pay him to borrow money at bank interest rates to build one. A silo twelve feet in diameter and twenty-six feet high will hold sixty tons of ensilage and will furnish feed for twenty cows for six months. Such a wooden stave silo will cost complete with the foundation about $175. Seven to eight acres of corn during the average season should be adequate to fill this silo. The balance of the corn crop should be husked and if possible the fodder should be shredded as it makes a better feed and bedding in this form and there is less waste. It will pay the farmer to select the best of his ear corn, cure it thoroughly, protect it during the winter from severe frosts in order that he may sell it for seed corn the following spring. If he cannot do this he should have his surplus corn converted in into corn and cob meal or corn meal in order that he may utilize it to best advantage in the dairy ration. Furthermore, he may sell some of his grain and use the money to purchase bran, gluten or cotton-seed meal, thus exchanging a feed of high carbohydrate value for one of valuable protein content.

Doubtless the dairyman will feed the major portion of his hay crop, but if he has any surplus he can profitably market it. The wheat will furnish his principal cash crop with milk or cream. The straw will be used as bedding and will enhance the value of the manure. An implement of second importance to the silo on the dairy farm will be the manure spreader. The writer believes that the farmer can also afford to borrow money with which to buy the spreader. If the cows are good ones and if the dairyman is experienced he will soon be able to meet all his obligations if the price of milk and cream are right.



A plan of an ideal group of farm buildings. Note how the barn keeps much of the chore labor under one roof. The implement shed is on the lane to the fields. The farm house and hired man's house each have a desirable location.

PURE BREDS AND A BABCOCK.

The milk-farmer beginning the business on one hundred acres had best buy as good grade or native cows as he can secure for the money. He should purchase a purebred bull of one of the leading dairy breeds — Holstein, Guernsey, Jersey or Ayrshire and henceforward practice line breeding and strive to grade up his herd as rapidly as his net income

will permit. The Scales and Babcock tester should be found on every farm and the milk record sheet and breeding records should be kept as sacredly as are the ten commandments. It is well for the dairyman to get started right in every respect then he will have no excuse for going wrong later on.

The maintenance of a separator and the sale of cream is the best dairy practice, but often the farmer is obliged to market whole milk on account of local conditions. Cream can be shipped in a concentrated form two or three times a week and the skim milk can be fed to hogs and calves, thereby converting this by-product into a more valuable form. If a method of inexpensive refrigeration is not available it will pay the farmer to convert the cream into butter and to market the butter and the buttermilk with the city trade. High grade buttermilk will sell for ten to twelve cents a gallon, while the butter the year round will bring an average price of about thirty-five cents.

AS TO BUILDINGS

The farmer of limited capital on new land will have to make haste slowly the first few years in order that he does not undertake more than he can ever overtake. Many a man has begun dairying too extensively for his resources with the consequence that he has been forced to the wall due to lack of working funds at a critical period. That's why it may pay the farmer to build inexpensive buildings rather than to go too deeply in debt for permanent structures of up-to-date character. For example, instead of building a dairy barn the farmer could erect a milking stable which would accommodate eight to ten cows at a time in addition to providing storage space for feed. The stable could be connected with a yard which could be provided with an open-end shed with a southern exposure in which the cows could be run during the day time and at night. The milking stable could be provided with doors at both ends so that the cows could be driven in at one end and out at the other. The farmer should corral all his cows at one end of the yard at milking time to facilitate driving them into the barn. Although this plan may appear cumbersome at first glance it has proved practical on many farms where it has been tried. The cows soon learn what is expected of them and the attendant is not put to much extra labor in handling them in the small stable.

Many farmers in the States prefer a round barn with a silo in the middle, as such a building is from thirty to fifty per cent. cheaper than an oblong structure to accommodate a like manner of cows, while it contains less waste space and is more efficient. A round barn sixty feet in diameter will accommodate forty-two cows and will provided mow room for thirty to forty tons of rough feed. The barn is ahead of the rectangular stable in making chores and feeding easier, in providing excellent avenue for the entrance of sunlight to the stable all day long and in decreasing the cost of the material used in the construction work.

SUMMER PASTURES

To begin with the dairyman will doubtless rely on pasturage to some extent during the summer, but ultimately he doubtless will come to stall feeding throughout the year. For this purpose ensilage sufficient in amount to provide succulence for twelve months outranks all other feeds. It is better for the farmer to have two small silos when he can afford them than one large one, due to the fact that the ensilage can be better handled with less waste from spoiling. One silo can provide feed during the winter while the other will furnish green feed during the summer. If labor is cheap it may pay the farmer to grow a few acres of such soiling crops as soy beans, clover, mixed oats and peas, rye and the like, but ordinarily the expense of placing these crops before the animals is too high for the average farmer to use them other than as emergency feeds.

GET INTO ALFALFA

If the farmer is planning for the future he should aim to establish alfalfa on his farm and to finally make alfalfa hay and corn ensilage the pillars of his dairy ration. He should sow a few pounds of alfalfa each season with his clover and grass seed in order to get the soil inoculated. Sometimes it will be necessary for him to secure a bacterial culture with which to inoculate the seed or else he will have to distribute two or three hundred pounds per acre of soil taken from an old alfalfa field over his area to be cropped to alfalfa. Once well established an alfalfa field should be good for eight to ten years of efficient service under average conditions. It should yield from three to four cuttings and from three to five tons of valuable hay per acre.

The new farmer should strive to improve one field a year—that is, he should concentrate his extra labor on one of the twenty-four-acre fields each season until he has them all up in shape to suit him. For example, say he is milking twenty cows and keeping four horses as well as a purebred boar and four or five good sows. He should be able to haul out approximately two hundred and forty tons of manure a year which would allow of an application of ten tons to the acre every fourth year on each of the fields.

It will pay the farmer to buy a few good wethers in lean order in the spring and use them to convert weeds and farm wastes into mutton during the grazing season. These sheep will keep the fields clean and will improve their fertility while they will also return a good profit per head if they are marketed in a fat condition when the price is right in the fall. If the farmer can afford the time to care for the ewes at lambing time and if he likes sheep well enough to see the profit in them it will pay him to keep fifteen or twenty ewes and a good buck permanently on the farm. The sheep are examples of triple utility as they will yield lambs and wool, make mutton and also keep down the weeds and the fence rows clean.

SOME MONEY CHANCES

There is many a chance for the up and doing dairyman to turn a penny in his home locality. For instance it will profit him from the beginning to specialize in the production of purebred small grain or corn seed as a sideline. When he has established a patronage among his neighbors he will be surprised to find what a revenue will come in from such a source. He may make a practice of raising good pigs to be sold at eight weeks of age. He may specialize in the sale of breeding dairy stock. In some way he should establish a sideline of some kind to which he will adhere.

If his neighbors are of the right sort it will not be hard for the ambitious and progressive milk farmer to start a co-operation campaign in his locality. Perhaps he can combine with his neighbors when his finances permit in the purchase of a community stallion which can be used as a service sire on the outlying farms. City buyers are always glad to patronize a community where they can obtain a dependable supply of draft animals of uniform type and breeding. It may be that the districts can be developed as a center which will specialize in the breeding of a certain type of dairy cattle. Or it may be that the co-operative creamery, the butter or cheese factory, or a co-operative egg marketing circle may be the lodestones which will band the farmers together in the marketing of produce.

One hundred acres and dairy prosperity is within the reach of every farmer who is endowed with the right kind of pluck, grit and perseverance. The plum may be hard of picking, but if the milk-farmer will treat the cow as he should she in turn will be generous with him. Success in dairying as in other lines of farming is dependent on the individual, his experience, industry, application and ability. Sometimes it appears as if "luck" was with the other fellow. Ordinarily the other fellow is lucky because he hits an extra lick when the extra lick is needed. What one hundred acres offer to the milk-farmer is an ultimate pile of golden nuggets, and a home-like farm, independence and prosperity. Unfortunately some farmers wear blue glasses and cannot see the prospect as it really appears.

Irrigating in Alberta.

The Case of the Tractor

The Call for Their Services is Coming Faster Than the Machines Can be Supplied

THE tractor is bound to solve many problems of practical field work. Already the demand from farmers is greater than the manufacturers can supply. The government of Ontario are to be commended for their efforts to get power machines to the farmers of the province, and to their persistent demonstration work and these demonstrations are mostly well spent. It is doing the experimental work which no single farmer feels called upon to do himself. With the government backing, all the practical working difficulties of the tractor will be more likely to be overcome quickly. Then after their feasability has been shown the farmers will not be slow to take hold of the idea and push it for all its economic worth. It has been so in the case of the motor car.

To show how the idea has caught on, a few references to the conditions as obtaining in May will be of interest.

The Bull Tractor.

Mr. Wm. Greig of the Massey-Harris Co., has been going on high gear trying to keep pace with the demands for tractors. He has sent out several machines to farmers near Toronto and has sold five to the War Production Club who are operating them in the townships adjacent to that city. Mr. Greig is enthusiastic as to the future of the tractor in Ontario agriculture and has been assisting in more production by giving the services of his tractors free in tearing up the ground for the local clubs which are planting vacant areas near the city. Two of these are operating near Fairbank and one in Scarboro. The War Production Club has its tractors at Newtonbrook, Bradford, Leaside and Islington.

The Avery Tractor

The Lister Manufacturing Co., have several Avery tractors at work in Ontario Mr. Ellis informs us that its demand for their little tractor (5-10) is very great. A club on Yonge Street is using one and Wallbrook Bros. of Oakville also have one at work. Altogether this firm have 30 to 40 out in the province and find it impossible to catch up with their orders.

The Case Tractor

Mr. Wheeler of the Canadian Fairbanks Morse Co., says that the popular demand is for the 9-18 tractor now already 8 of them are operating near Toronto. They are giving satisfaction and men are being educated gradually to a full understanding of them.

Mr. Bailey Busy

C. F. Bailey, Asst. Deputy Minister of Agriculture for Ontario who has had charge of the tractor placings has been extremely busy distributing and superintending the operation of more production in the province. He is constantly in touch with all kinds of schemes for tractor manufacture and trial. Last month he attended a demonstration at Detroit with Hessian Tractor and Tiller, a new machine that takes the place of plow harrows and discs. He also visited the Ford farm and saw the Henry Ford & Son Tractors at work.

New York Commission Buys Tractors

Twenty-two tractors have been purchased by the New York State Food Supply Commission and options taken on 40 more. These will be operated under the supervision of the Commission's county representative at cost. A small army of farm cadets is already in the furrows. Three thousand boys have been released from high school and are at work on their home farms, and 1,300 are working on other farms.

Can Do All Work

HESPELER, May 4—The gasoline tractor, which was ordered by Mr. Z. A. Hall, M.P.P., has been doing great work on the Geo. D. Forbes' farm, also on the free lots, which the town is giving to the citizens of Hespeler to raise foodstuffs. Everybody is pleased with the work of the tractor. Farmers say it is a splendid machine, and feel it is what they want. It can be used for threshing, filling silos and operating farm implements.—London *Free Press.*

Demand Increasing

The demand for tractor ploughs in the province is increasing all the time. Up to the present the Department of Agriculture has ordered 14 tractors so far, and owing to the demand will likely add two more.—Toronto *Telegram.*

Wants Duty Removed

New Liskeard, May 10—At the Board of Trade meeting here last night a resolution was passed to ask the Dominion Government to allow the entry of tractors from the United States into Canada free of duty, it being the opinion of the board that such a step would greatly aid production, offsetting to some degree the pressing need of farm labor.—Toronto *Globe.*

Charges 35c an Hour

J. W. Noble, B.S.A., of Essex, has one of the Government tractors and it is pulling a two-furrow sulky plow. Any farmer can have it by paying 35c an hour and buying gasoline and boarding the men. The machine is 30 h.p., and is capable of 7½ acres per day.

Lambton Farmers Buy

SARNIA, May 7—Following the visit of the Government farm tractor to this city about a week ago, a similar tractor has been purchased by local farmers and arrived in the city this morning. It will be tried out on the McGregor farm, a few miles east of the city. The wet weather of the past few weeks prevented the tractors from being thoroughly tried out, but their ultimate success is not doubted. Extensive tests of the new machines will be carried on during the present week if the present weather continues.—London *Advertiser.*

Dr. Farewell of Oshawa

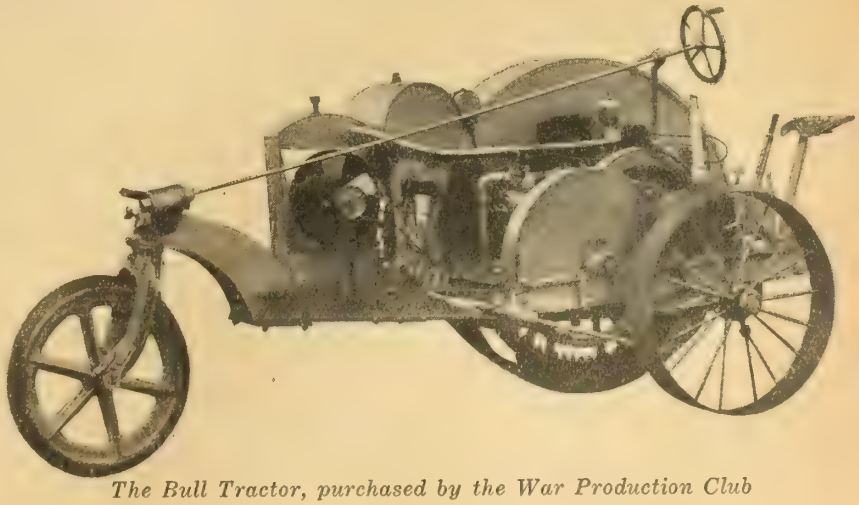
Dr. Farewell of Oshawa purchased a tractor this spring for the purpose of assisting in the work of cultivation. In one part of the field in which it was working the machine climbed an incline where there was a rise of at least sixteen feet in 70 yards, with a side slope to the furrow side. The machine, an 8-10, took the grade with ease, but there was a tendency to side slip, which could, however, be overcome by raising the pilot wheel out of the furrow to the unplowed land alongside. The machine was being operated, too, by a man who had never attempted to run such until he started this one in my presence, his only training having been that which he obtained by watching an expert run it the day before. The machine was turned on a 24-foot head land.—Toronto *Globe.*

Takes Place of Six Horses

The first tractor to arrive in this part, was delivered to Mr. T. L. Mercer, our enterprising, up-to-date farmer, on Monday. We understand it works marvellously, and takes the place of six horses.—Markdale *Standard.*

Halton County Work

The tractor which first broke land in Halton County on Monday has demonstrated that one man with one tractor can do the work of two men and eight horses and at a cost of at least 50 cents an acre less, besides effecting a saving of time which in these days of stress is of inestimable value. —Toronto *Mail and Empire.*



The Bull Tractor, purchased by the War Production Club of Toronto, of which J. W Woods is chairman.

Farm House Heating Plans

By MACKENZIE HALL

THE question of heating our farm houses is likely to absorb more attention during the coming winter than it has for several seasons, owing to the high price of coal that has obtained now for some time and to the likelihood of a general scarcity next winter. There is every need for persons giving considerable attention to the question of fuel and saving in the heat that is made from the fuel we burn. There is no doubt about it that many houses are heated very expensively by maintaining one, two or even three coal or wood stoves in different parts of the house. These eat up fuel at a tremendous rate and require constant attention, entailing not only the labor of the housewife in looking after and cleaning up eternally the nuisance of smoke and ashes that is created, but also keeping up a continuous handling of fuel.

In this connection it might be well for farmers to consider the question of installing a furnace in the house at once. By the installation of a good furnace that will burn either coal or wood, the farmer can get over the heat question very nicely by feeding wood to his furnace if he cannot get the coal. And in case of furnace-heating for a house there is no difficulty about comfort throughout the whole house and elimination of much of the dust and ashes. Moreover, a house that is poorly heated is a thousand to one also badly ventilated and a badly ventilated home is sure to sap the efficiency as well as the vitality of those who spend nine-tenths of their lives indoors where the heaters, wood or coal, are in use.

A report from the Commission of Conservation at Ottawa shows that a great majority of the fires throughout the country are caused by defective chimney and stovepipe arrangements. Of course, this same difficulty will still remain in the erection of many furnaces, but if the furnace is properly erected and the chimneys paid proper attention to, the fire risk is reduced to a minimum, and every farmer in his thrift campaign this year, should consider the rebuilding or remodelling of his chimneys or flues so that there will be the very least danger of fire having any chance throughout his buildings during the coming winter. There is no question about it but that the furnace will solve the difficulty cheaper, better and safer than in any other way and particularly does the farmer owe it to the inside help in the house to give them a square deal in the matter of household comforts, conveniences and safety.

It is not necesary that a furnace entail a great deal of expensive equipment and high-priced work. Much of this can be done by the farmer himself and his laborers and with the advice of a skilled furnace man in the local town or village, the difficulty can be quite easily overcome.

Some Practical Points

Place the furnace as near as possible in the centre of the basement for the reason that uniform length of pipes will give each pipe a chance to throw an equal amount of heat.

Further, when situated in the centre of a basement, its efficiency is greater under varying climatic conditions. For instance, suppose the furnace is situated on the south side of the house and a northerly wind blowing, the furnace would be placed at a great disadvantage, having to force all the warm air against cold rooms, or rooms subjected to a northerly wind; the same if the furnace was placed in the east with a western gale blowing.

The high-grade warm-air furnace costs more, of course, but in the end it is the cheapest. The consumption of fuel will be lower, with higher heating efficiency. Provision is made to furnish a good supply of humidity, which is very necessary. There are also one or two fresh-air vents to furnish air from the outside when required. The large radiating space,too, is provided for in a good warm-air furnace. The only real objection to any kind of warm-air furnace is the fact that the pipes necessary are, oftener than not, in the way. They fill up the basement too much, no matter how the furnace is installed, and to make a basement ceiling higher, thus providing for these pipes, simply means that the building could be built six inches to a foot lower, thereby saving practically a foot of building material all round the building, though this is not often done.

STEAM HEATING.

Steam heating for residences has not been given as fair a trial as it should. It is far more flexible. That is to say, in the spring and fall a little steam, sometimes a few ounces, can be raised, which will be ample to take the chill off the house, and thus steam can be generated with any rubbish laying around; then the fire may be let out. But with a warm-air furnace or even warm water this can not be done.

Again, a steam plant requires less piping as well as lesser-sized pipes than any other system. There is no doubt whatever but that steam will become more popular for heating homes in the future, as regards the furnishing of fresh air this can be done by having what is known as several direct-indirect radiators installed. This is a type of radiator which has a cold-air duct connected to the lower part of the radiator and open to the outside air. The cold air is drawn through the ducts and several baffles convey the cold air through the sections of the radiator, thus warming the air before it actually enters or mixes with the air in the room.

Hot water heating bears some relation to steam heating. There are both flow, or main pipes, and returns just as in steam, but both the radiator connections are at the bottom of the radiator, though, of course, some hot-water systems are connected at the top and bottom of the radiator, but not very often. With steam, moreover, no expansion tank is necessary, though with hot water such a tank is indispensable. The mode of operation is as follows:

First, the system is filled with water until the expansion tank registers at the gauge glass about two-thirds full of water. A fire is built up, not too heavy at first, then the air is allowed to escape out of the radiator by opening the air valves shown to the right of each radiator. As the water is heated, it becomes lighter, bulk for bulk, which proves that the water has expanded, and by watching the water-glass at the tank it will show more water; and as the water cools it will contract.

In conclusion it would be well to bear in mind the following items which are essential to any heating system.

Proper location of furnace; proper location of radiators, which is always in the coldest places of the house, under windows, etc. Provide lots of humidity and fresh air. The furnace should be provided with temperature controlling devices; these will save their cost in fuel in a couple of winters, and nothing is so vitally essential as uniformity of heat. In case of warm air the pipes should be covered with asbestos air-celled paper. Hot water, as well as steam furnaces, and all piping should be well covered with regular pipe covering made specially for the purpose.

Telephones—Social and Commercial

By ELUID KESTER

IN PIONEER days, get-together events were numerous. The frequent logging, raising and husking bees constituted informal receptions. When the toils of the day were o'er, a hearty repast was enjoyed at the family homestead. Mrs. Jones, the farmer's wife, assisted by her kind neighbors, poured tea, but no mention was made of the fact in the society columns. That era, however, passed. The march of time brought a succession of changes. Scientific agriculture has constituted each farm more of a unit, and consequently the early neighborly spirit, which before was an enjoyable necessity, has suffered a decline. The rural telephone thus seems to have entered the arena of utility at the proper period. Any permanent lessening of the true spirit of friendly intercourse and mutual helpfulness would retard our national progress. Spreading the gospel of free speech (a small remuneration is, of course, expected by most of the telephone companies), the telephone is bringing life and brightness, it is supplying the oil of joy and service throughout rural Canada. The isolation which was driving the young people off the farm is fast disappearing by the introduction of the telephone and other modern equipments which have added to rural life an urban flavor, maintaining meanwhile the real essential attributes of the ideal agricultural art.

FARM VALUES GROW

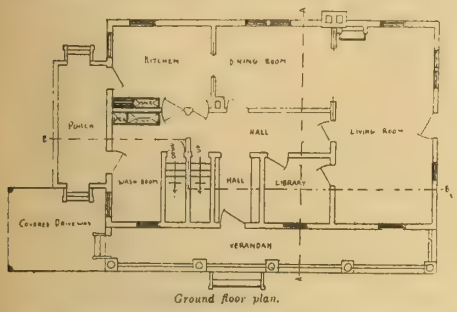
Apart from the standpoint of general convenience and social betterment, the commercial value of the telephone in every locality thus blessed is a prime consideration. The farmer is in constant touch with the best markets, local and more distant. Many duties, which in pre-telephone days would necessitate a drive to town, can now be disposed of in a brief

Continued on page 70.

Better Farm Homes — Ideas Spreading

Some of the Popular Types of Houses Shown by The Farmer's Magazine

BUILDING more sensible farm houses has been helped greatly during the past 5 years by the splendid service in ideas of style and practical suggestions in building given by the FARMER'S MAGAZINE in almost every issue. It has been one of the tragedies of many of our countrysides that so many country houses have



Ground floor plan.

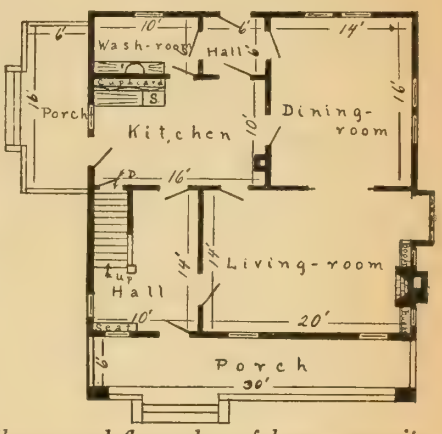
The ground floor plan of house opposite.

Simplicity and beauty combined. Many plans have gone out for this type of house.

A quaint homelike type without effort at display. The cobblestone porch and chimney add a pleasing distinction.

living well on the farm is an end in itself worth striving for.

The three houses presented herewith have appeared in past issues and have been the favorites. Many have ordered plans of the first one here shown.



The ground floor plan of house opposite.

been built with no regard for conveniences, better lighting, ventilation, heating, and compactness. Old ideas die hard and the farm outbuildings, as a rule, have received more considerate treatment by the farmer generally than the house layout. Such barbarisms are happily passing. And it is a source of much satisfaction to note the number of inquiries that come from all parts of Canada, and also to note the way farmers are seeing that

The ground floor plan of house opposite.

A good idea for building or remodelling a plain square type of farm house.

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The Farmer's Magazine

AN AGRICULTURAL PAPER FOR ALL FARMERS IN ALL PARTS OF CANADA

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EDITORIAL communications must carry the correct name and address of the writer. Anonymous articles will not be considered. Matter for publication must be written on one side of the sheet only. We are anxious to receive interesting articles on agricultural subjects, that are of practical value to any members of the farm family. Short pithy articles of value in any department are of especial worth. Photographs of farm scenes, experiments, contrivances, power, and household conveniences as well as the accepted articles will be paid for at our usual rates. Contributions for which we pay must not be submitted to other journals after acceptance by us. Rejected matter will be returned if postage is enclosed.

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THE TRACTOR DEVELOPS

CROP shortage has wonderfully stimulated plans for the development of the farm tractor. Not only in Canada is this true, but throughout the continent and in Europe and in fact wherever grain growing is practised. While this power machine has been on the market for some time, it has taken a crisis in human affairs to bring it into valuable use for agricultural work. The best of their work is yet to be done this year. The preparation of soils for fall wheat, and fall plowing for next year's crops should be of first importance. No tractor should be idle. The world's food is scarce. Next year will not be much better.

FARMERS AND MINIMUM PRICES

CONSUMERS are unreasonable in their demands for food. Too often they take their cue from isolated cases of farm returns or from the hysterical ranting of a soap-box orator or a jingo ward politician. It is inconceivable that any government would consider seriously price setting on farm products. But governments are made up of like elements. Too often, the quiet member of the community gets the little end of the bargain. And it might happen now in some moment of weakness.

The problem of fixing a percentage profit for manufactured articles is easy compared with the problem of determining the cost of farm products. Should any attempt be made to fix an arbitrary maximum price for wheat, beef, pork, wool or potatoes, the result would be disastrous to production at the present time. And while such a course might come to be justifiable in the future, such a one would be regarded by the farmer as a challenge to quit.

If there is any price fixing to be done, the naming of a minimum price for farm products is the rightful way to begin, for only by that method can the farmers be assured that, if they respond to the country's appeal to produce to their fullest extent, that they will be protected against serious and undue financial loss.

Farmers in Canada have had previous experience in responding to appeals to grow two blades where one formerly grew. Large crops have increased the supply so far beyond immediate demand that prices have fallen below the cost of production. That this has occurred was doubtless due in a large measure to our faulty methods of distribution, markets and storages, but nevertheless the losses were real to the farmers. Such a repetition must not be allowed in the present instance. The appeal to produce has been listened to with care, and in almost all cases the farmer is bending to his task as never before. For the government to step in and fix his price for beef, pork, beans, potatoes, wheat and oats, where such prices cut into the little margin of profits, would be unpardonable. The government should assure the farmers of perfectly fair dealing. With emergency conditions and a general shuffle in the ordinary forces of supply and demand, farming needs more than chance rulings to effect increases.

A CHANCE IN BLOOD LINES

THE *Financial Post* struck a good note editorially in a recent issue when it said that British farmers are reported to be willing to dispose of much of their pure-bred livestock and poultry stock in order to save in the food shortage. Hitherto the Clydesdale, Shorthorn, Ayrshire and Shropshire and other noted studs, herds and flocks have been very jealous of disposing of their best breeding stocks to America. The choicest blood, contrary to our Canadian farm practices, has been retained for reproductive purposes at home and long prices were no inducement to allow of the departure from their coasts of a Baron's Pride or a Duthie herd header. Now that the exigencies of war have relaxed somewhat these sentiments, it is the opportunity of Canadian breeders and farmers to secure animals in trust for the post-war trade that will be sure to follow. The establishing on this side of the water, of breeding barns with such quality, would bring incalculable wealth to Canada. It would establish a reputation for our breeders that would make the buying world track to our doors in the future. Already several United States importations have been made and others will follow as the transportation facilities allow.

MOBILIZE OUR RESOURCES

MUCH attention has been drawn to the state of production across the lakes. The same appeals to produce more are being broadcast in every state of the Union. Thrift campaigns and the elimination of waste go hand in hand. Doubtless there will be an enormous crop harvested in America this year, and unless a proper preparation for that harvest is made by the Ministers of Agriculture and the departments in charge, there are going to be many unfair circumstances come to light. The U.S. is organizing its agriculture as a war measure. They have assured the farmers that conscription will not apply to active farmers. They are planning to assist the harvest and to take care of the crop.

What is Canada doing in this line? To wait for the yellow field will be too late. Organization should be perfected now, elevators, transportation arrangements, local dispositions of grain, sufficient machines for threshing, available labor should all be chartered and ready for moving at ten-minute intervals, if necessary, just as the sealed orders to the railways of England brought 140,000 troops to the frontier in a few hours. That would indeed be mobilized agriculture. It would be national common-sense.

Private concerns, in peace times, work out these questions of saving, thrift, prices and labor after the ordinary laws of supply and demand. To leave all these things to the operation of this relentless law in times of their perversion, would be equally as negligent on the part of the nation, as exposing her armies to attacks with no preparation for defense. Agriculture demands vigorous, strategic and effective action at once.

No farmer in Canada to-day is sure of what he ought to do in the matter of feeding cattle, or planning for future feeding and dairy businesses. The tendency is to cash in, in the surest way in order to be safe. That would be a national calamity. The need for protecting field and animal enterprise on the part of our farmers is of first importance. All worries about conscription also should be settled now.

The clear duty of the nation, says Gifford Pinchot, of Penn., U.S., is to guarantee the farmers a fair price for their crops when grown, and a reasonable supply of labor at harvest. The clear duty of the farmer is to raise food enough to win this war for democracy against Kaiserism.

Barn Building For Service

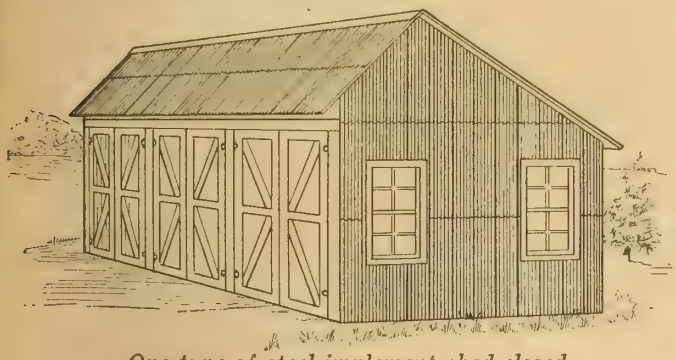
Agriculture in all its Branches Demands the Use of the Best Ideas Available

SOME IDEAS ON STRUCTURES

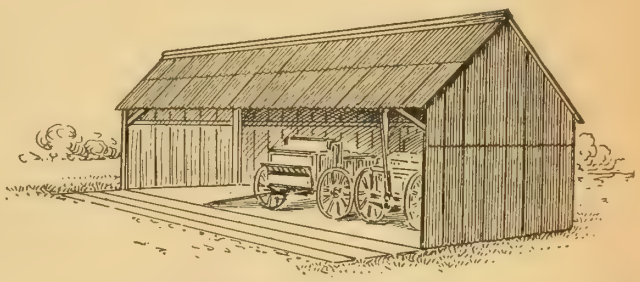
FARMERS spend too much on farm buildings. Reports of the dairy census conducted in Michigan showed that some farmers lost because they had too heavy an overhead charge. But the number of farmers who lose out because they have not efficient buildings is far greater. The remodelling of old barns or the building of new ones demands fullest attention to details, materials and location. The question of cost, fire protection and appearance must enter into the estimates. Whether we use all wood, all steel, a combination of both with stone or cement basements all depends on our circumstances and our pocket books.

The main point to observe is the general principles that make for better livestock, permanence, convenience in work, protection from the elements, and low upkeep. Under better livestock, must come the principles of ventilation, lighting, freedom from dampness and protection from prevailing winds. Under permanence, the protection of all wood from contact with the ground is essential.

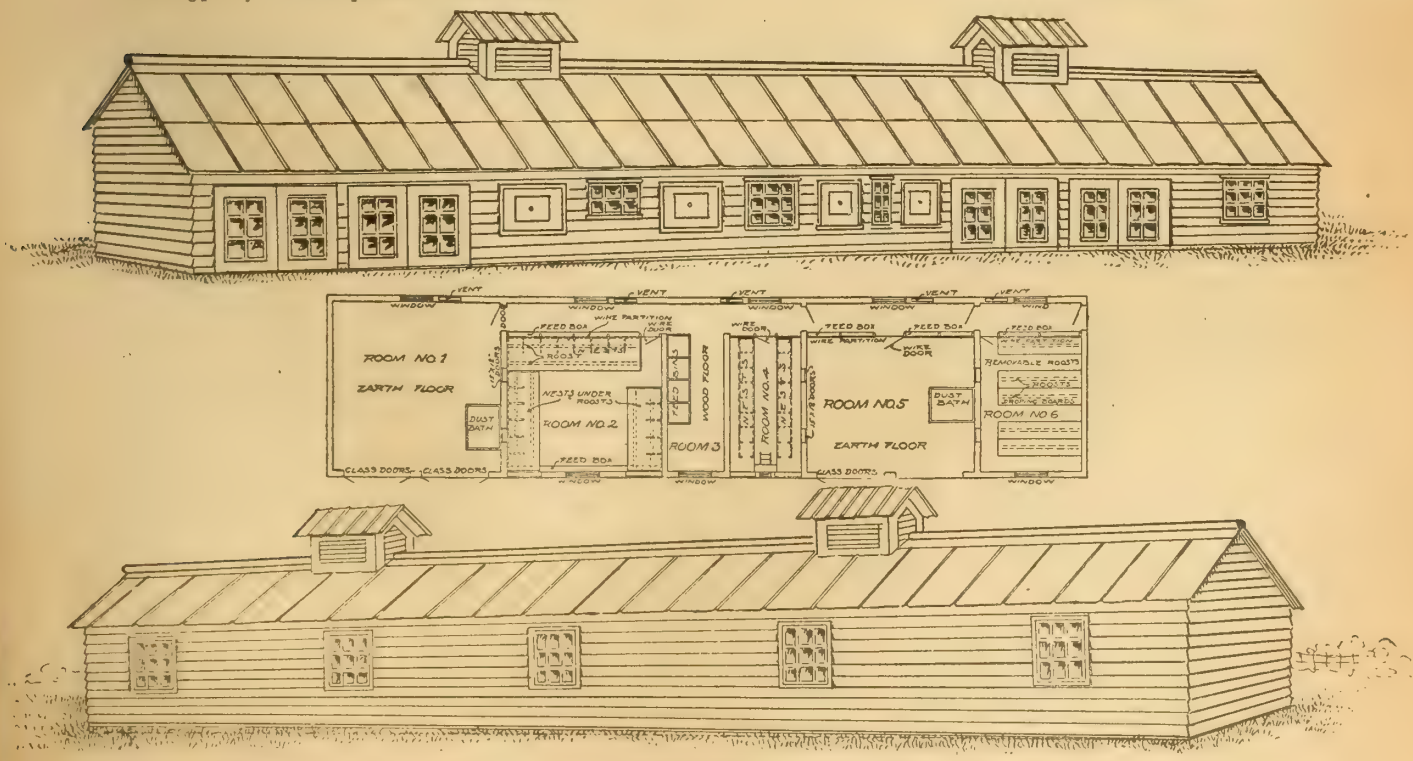
A combination steel and wood barn presents a neat appearance.



One type of steel implement shed closed.



An open type of farm implement shed all steel and cement.



A large hen house for caring for a big flock, made of steel siding and metal roofing.

June Comes Back: By A. C. ALLENSON

The Romantic Story of a Mining Magnate and His Pretty Ward

In MacLean's Magazine

"The voice of one who goes before to make
The paths of June more beautiful——"

JUNE the month and June the girl! Everything was June to-day to Jack Beresford. Spring had been late , and the orchard was still in the pink and white beauty of blossoming time, yet the roses had begun to appear on the bush at the corner of the verandah. The sky was a soft, clear, deep, blue. The wind that ruffled freshly the lake's surface had genial warmth in it.

Indoors the new house had been scrubbed and cleaned and polished until it had almost taken on the appearance of youth's resentment against all the fussy worship of soap and water. Really, it had been a perfectly wretched time for Jack, its owner, but he bore up heroically, since it was to make the place fit for habitation for little June.

He had come up from his office early, ridiculously early, had shaved and dressed with unusual care, had brought the car round to the door. Fifteen minutes would take him to the station, and the absurd train would not be due for another hour and a quarter. To a man who habitually caught his trains two strides across the platform, and a flying tackle of the rear-end door of the tail-end car, the thing was disconcerting. He reflected on the pity of it that trains did not vary the monotony of lateness by coming in, now and again, ahead of time, thus introducing a speculative element into their proceedings. He rather suspected that the average railway director is an indifferent sportsman.

Jack had made the life of Mrs. Dodge, his elderly housekeeper, a positive burden to her these last thirty minutes, going into all kinds of details about dinner, when, and how, and what it had to be, and was she quite sure about this, and that, and the other thing? As a rule—so Mrs. Dodge had complained to Eliza the maid—Mr. Beresford didn't seem to know whether he was eating oyster stew or ice cream; but to-day there was no satisfying him. A dozen times he had pestered her with enquiries regarding the perfect preparedness of Miss June's room.

"Fidgety and fussy as a green young lad, on his first wedding day," she grumbled, not unamiably. "You'd think a duchess was coming, instead of just little Miss June. But there! I'm bad as he, all of an ache for the sight of her pretty face."

" A terrible lot he thinks of Miss June," said the maid. "Couldn't make any more fuss of her if he was her own father. Some girls are born lucky—and then again some aint. Guess I turned up on a fast day, and had to go without."

ON THE verandah, Jack looked at his watch, shook it, listened to it—no, it was going all right. He shoved it back into his pocket doubtfully, as if he suspected it of loafing when out of sight. Then he went over to the machine, stood off to admire, gave a rub to the mirror-like surface, then looked at his watch again. Talk of leaden-footed hours! they were even-time sprinters compared to this train. It must have shackles on and be crossing a molasses swamp. In sheerest desperation he took out pipe and pouch, and flopped into a chair. He filled up, and tamped the tobacco down with nice care, put the pipe into his mouth, struck a match with right hand, pulled out his watch with left, burned his fingers, said something that bristled with inflammatory exclamation points, struck another match, let it go out, and dropped off into the realm of dream and fancy as deeply as if a pretty nurse stood by the side of him, while a white coated doctor at his head invited him sociably to take deep, regular breaths, and he'd be "off" in something less than a brace of jiffeys.

Beresford was an attractive looking man, a little over middle height, trimly and powerfully built, with a general air of all round fitness. He was in the early thirties, prosperous, unmarried. The last of the Bluewater Beresfords, he was remarkable for the striking contrast he furnished to a family whose shiftless "easiness" had become a local byword. There had been a sister, Kate, five years his senior, a delicate, courageous girl. They had been left alone in the world when he was thirteen, and had fought a victorious, uphill battle against neglect and debt, that was the wonder of the countryside.

Making the farm a success, Jack had looked farther afield. When he went forth on his prospecting trips, neighbors laughed at his ambitious folly. When he tore open the rock, and bared the veins of silvery asbestos fibre, they said it was wonderful how luck came to some folks. You'll find the same brand of idiots in every community. Then Kate died, just at the moment when from their Pisgah height, they saw fair Canaan beneath. No ordinary sister and brother had they been. More like lovers, folks said, the frail, golden-hearted girl and the fighting lad, brimming over with live ambition. The bitter blow left its mark on Jack. He looked wiser, deeper, older afterwards.

But there had been the child June, whom Kate had brought into their home. She saved the man's rebellious heart from utter loneliness, and kept it soft amid the hardening influences of business success. He now recalled the child's coming. Kate had been away visiting. It was at supper, the evening of her return, that she told him of June. She had visited the Children's Home, and had seen the destitute orphaned little ones, brought out from England's great cities, to find breathing places and homes in Canada. It was there she had seen June.

"A wee baby girl, Jack, just five years old, the sweetest, prettiest, little thing," she had said. "She has fine silky brown hair, and pink rose cheeks, and teeth as white as milk. And the laughter of her! It goes to the heart like sweet, warm sunshine."

She had paused, her eyes shining as they met his cool, doubtful ones.

"And the next part of the story?" he had laughed.

"I want her, Jack. Oh! I want her all for my own," she had said. With a young man's prudent wisdom, that one grows out of later, he had suggested the customary objections; the possible taint of blood, the harsh law of heredity, the fear of the "throw-back" to evil ancestry.

"But if you only saw her, Jack, in her little cotton frock and white pinafore," Kate had pleaded. "And there's a tiny chain of gold about her little white neck, with a locket, such a queer locket to lie on her baby breast. It was there when they found her. Jack! She was in a room of a London slum, crying by the side of her dead mother. The home folk think she comes of good stock. There are two pictures in the locket, a man and a woman, and the woman was the baby's mother."

"She'll surely be an awful lot of trouble to you, Katie," he had urged.

"Trouble!" She laughed. "She'll be just joy. Her name is June—June Summers, and she is just like it. Sometimes when you're away, I'm lonesome, the old house seems still and solemn as a church. A home without little ones at their play, is no real home, it's only a staying place. I can have her, Jack?"

Of course she knew she could, or anything else she wanted. So June had come to them, and Jack wondered now what the world would have been like had she been out of it. He could not imagine anything so desperately dull; so he rose from his chair, his dream over. To-day June was coming home to stay. She had been away at school, the best school he could find, hence the excitement. Again the watch was tugged out. The laggard hands had actually moved. He went indoors, volleyed another series of instructions to Mrs. Dodge, ran out to the car, cranked up, and sped Stationwards.

The train was positively on time. A brown-haired, pretty girl, slimly graceful, stood on the platform of the car, a fat Senegambian, carrying her hand baggage, in grinning contrast at her side. Could it really be June? It was only a year since he had seen her. She was then in shortish frocks, and her hair in long braids. Now her skirts reached to her shoe tops, and her hair was coiled about her shapely head. She had gone away a girl-child and had come back a girl-woman. It seemed to Jack all very alarming and very charming. He felt a positive fossil, something at least mid-Victorian, as the novelists say when they fall down on precise description. Yet, despite the feebleness of years he moved with astonishing alacrity towards the car steps.

"Jack, you delightful old dear! I've a good mind to hug you," said June, her hands clasped in his.

"By all means," he smiled. "That is if you can reconcile your kind heart to driving the men who are looking on to still

Continued on page 21.

A Red Cross Canning Centre

How the "Fruit Kitchen" at Hamilton Operates—Even Third and Fourth Grade Fruit is Saved and the Running Cost is Surprisingly Low

By ETHYL MUNRO

WHEN women from all parts of Canada in answer to an appeal from the Red Cross Society, began to send in contributions of canned fruit for shipping overseas, several difficulties occurred. In some cases the fruit had not been thoroughly sterilized, and in the churning about in shipping, fermentation set in. A considerable amount of the fruit was wasted through breakage in transportation. To overcome these losses the Red Cross Society established a fruit kitchen at Hamilton, where fruit could be canned under the supervision of an expert canner, put up in uniform glass jars, and packed in such a way that there would be no loss through breakage. The system evolved is very simple and efficient, and suggests some methods which might work well in other canning centres.

When it was first decided to make Hamilton a canning centre, the fruit farmers of the surrounding district were canvassed to see if they would give their second grade and windfall apples for drying. The farmers said they would go farther than this and give donations of peaches for canning. No canning plant had been equipped at this time, but women from the different churches had volunteered to take quantities of fruit to can for the Red Cross. When the supplies of fruit began to come in motor-truck loads, it was found that this arrangement was too uncertain to take care of the large quantities of fruit sent in on short notice. Voluntary contributions of fruit have to be taken whenever they are sent, and women in private homes are not always ready to take in quantities of fruit to can. The outcome was the equipping of a fruit kitchen.

Mr. John G. Gauld gave the third floor of his office building with six thousand square feet of floor space for premises. P. V. Burns, of the United Gas and Fuel Company, gave the gas free. W. J. MacBeth has been most painstaking in the laboratory work, and in equipping the plant. Dr. Storms and Mr. T. H. Willis have given considerable time to the work not only free of charge, but at considerable personal expense, and Mrs. Gauld is busy at the plant from ten to twelve hours a day throughout the working season. The expert who takes charge of all the cooking and sterilization of the fruit, and one office girl, are the only salaried workers. The washing and paring of the fruit, washing and packing jars, etc., is all done by the voluntary labor of women from all the churches in the city.

The complete equipment of the plant costs $554.56. There are two large wooden tanks, one containing cold water and one heated by steam pipes from the engine in the laundry below. Peaches are dipped first into hot water then into cold to make them pare quickly and without waste. There are long tables with benches where the workers sit while getting the fruit ready for cooking. Two large steam jacket copper kettles, a small electric plate with a granite kettle where the rubber rings are sterilized, and a small tank for washing up, complete the canning equipment. Special provision is also made for the packing of the jars for shipping. Only glass jars are used, and these, when the hospitals are done with them, sell at considerable profit in England, as Belgian glass factories have been closed. Of the package used it is claimed that nothing but shrapnel could break it. The boxes are of wood about three-fourths of an inch thick. They have a little mill for cutting beaver board to divide each box in sections allowing for about an inch of excelsior around each jar. A good deal of fruit canned outside the kitchen is sent there to be packed for shipping.

Volunteer ladies in Hamilton late Saturday night taking care of a shipment of perishable fruit.

The plan of carrying on the work of a fruit kitchen by voluntary labor is not without its difficulties, and the success with which the system has worked out must be accredited largely to the organizing ability and steady service of Mrs. Gauld. She is at the kitchen every day not only organizing the work of the helpers, but personally doing anything from paring fruit and washing jars to scrubbing up the floor. About a month before the canning season opens she visits all the churches of the city, soliciting the help of the women. Most of the women come to help whenever they can and Mrs. Gauld keeps a telephone list of several whom she can call in an emergency. At six o'clock one Saturday evening 1,800 baskets of peaches arrived at the station. By eight o'clock there were one hundred and twenty-five women at the fruit kitchen and they worked right through until five o'clock Sunday morning. With a staff of sixty women, 3.280 quarts of fruit were canned in one day. As a rule, during the busy season, the workers are coming and going from early morning until eleven o'clock at night. The older school boys and girls help on Saturdays, and after school hours. When sufficient fruit to make a carload was packed in boxes for shipping, soldiers from the training camp in the city came to help with the loading.

While so much of the work can be done by voluntary labor, it is obvious that no such canning centre could be operated without some expert canner in complete charge of the cooking and sealing of the fruit. Otherwise, several women would have different views of how the work should be done, no one would be responsible and the quality of the fruit would be uncertain. With an expert canner in charge of the work, before a large quantity of the fruit is cooked experiments can be made to determine just the right quantity of sugar, etc., and a constant quality is assured at a minimum of cost. Before any fruit is cooked for jelly, it is tried with the alcohol test for pectin.

Another important feature of the work of the fruit kitchen is the way it takes care of what would ordinarily be waste. Fruit is handled here which no canning factory would bother with, because it wouldn't pay to let the factory hands take the necessary time to cut out the bad from the good, to prepare it for cooking. The labor here being voluntary, costs nothing, and nothing that can possibly be converted into wholesome food is allowed to waste. Sometimes, canned fruit has been sent to the kitchen to be packed, and not being perfectly sterilized, the churning about in shipping has left it on the verge of spoiling. If it is just in the

early stages of fermentation, it is boiled over and made into jam. In order to make use of every bit of available fruit the manufacturer of jellies from combinations of different fruits was begun. These experiments have resulted in some of the most delicious jellies ever turned out of factory or home kitchen.

In addition to the canning and making the jams and jellies, quantities of windfall and poorer grade apples given by farmers in the surrounding district were dried. Another plant was necessary for this, and Mr. Gauld gave the use of a room in his warehouse. An interesting side-line carried on by the same staff was the drying of grapes, making a new Canadian raisin, to send through the Canadian War Contingent Association to the men in the trenches.

The Senior Subaltern's Story

By FREDERIC COLEMAN

In the Saturday Westminster Review

"WE GO into the line to-night, and the First Brigade comes out," said the Captain.

We had been in the support dug-outs for forty-eight hours, fighting mud slides. Continued rain for days had made the ground hopelessly wet and sodden all about us. Roofs and walls of mud, hurriedly and none too scientifically constructed, had hourly shown more and more effect of the all-pervading damp. The wall beside which our luncheon, a feast covering the whole top of a biscuit box, was spread had been as treacherous as the rest. It bided its time until its caving sides would bury our food, so temptingly arranged, then slid down with a vengeance peculiarly Flemish.

To add to it all, the Boches began to strafe the support position. One Black Maria landed in the dug-out next to mine. It killed half a dozen. Among its victims was our Junior Sub. The Kid we called him. The Kid and I had been pals and fellow-choristers many years before in the old cathedral town in which we both were born. When the war came he was a rising young tenor, of great promise, in the concert world. We buried the Junior Sub. near the spot where he had paid the great price.

We were glad to leave that stinking, unstable dug-out, no matter where the brass-hats might send us. The Kid's death had given me the absolute pip. We bustled about with an unnatural eagerness to make our meagre preparations for the relief. Dusk found us ready to start, and we did not wait long for the word. Across Flemish fields, ripe with rotting mangel-wurzels over which one slipped and stumbled in the black night, through quagmires formed in reserve trenches long since abandoned, round and not infrequently into ancient entanglements of barbed wire and cheered by the thought that the front line could not be so utterly uninhabitable as the support dug-outs we had left, we struggled eastward.

At last we reached a gentle rise, snuggled under the slope of which was Brigade Headquarters. Thereabout we stood ankle deep in the cold mud, and cursed softly and intermittently for two hours before being sent on. When we left that resting-place our way led through the high walls of an approach trench, knee-deep in running water, draining from the higher front-line position ahead. The firing-line was home to us, indeed, after the experiences encountered in gaining it. At least it was dry. The Hun trenches were fifty yards or so in front of ours. Night-flares at frequent intervals showed the parapets of both lines. Sniping was going on merrily. Now and again a big shell burst near by, usually followed by three black-hearted blood-brethren of the Maria family.

"All here," asked the Captain, as I was seeking a spot on which to sit while I changed my soaking socks for a dry pair.

"Quite," I replied.

"Then get busy," said the autocratic one. "There is some wire to come up from back there where we stuck so long. Take a squad and see to it, there a good chap."

"Avec plaisir," I murmured, and was soon splashing back with a handful of husky braves behind. While I was tramping through the mud on that and various other quests, the Captain inspected every foot of trench and every machine-gun emplacement. The loopholes and the stands for the snipers, every one, came under his eye. No detail was left to chance. No surprises resulting in lost trenches, we had long since vowed, would ever be charged to our little lot. Keen was my Captain.

The Junior Sub., lost to us so suddenly that evening, was our chief stalker. In the darkest watches of the night he would wriggle over the parapet and make a hazardous tour of observation and research close to the Hun lines. Wonderful were the stories he told us on his return. Great had been the value of his work on more than one occasion. Sometimes he had to lie for hours immovable, while bullets whizzed close from roused Hun snipers. Once let them think that they had seen something moving in front, made dimly visible in the momentary glare of a well-placed night-light, and they peppered away like mad.

"Poor Kid," said the Captain, "he has done his last stalk for us. The C.O. looked forward to his report as to this sector. Rotten luck for him and for us too."

We had never taken that sort of thing in turn. It was voluntary work, pure and simple. The Kid had started it for us, and had always considered it his own pidgin.

"I will go over and see what I can see," I said. Not that I cared much about doing it. I was thinking more of the Kid than myself. It seemed as though his work was not being done, and I knew he would feel that deeply. I felt it was up to me to do the best I could, just to make good for him.

That scout was a hot one, cold night though it was. The Boches seemed bent on wasting any amount of trench-lights. Though the ground was too open for comfort, a few fallen trees gave some cover. Several corpses helped. I got up quite close, after a brief spell of pitch dark, and got my bearings well from the firing.

Sounds under me caught my ear. I pressed it close to the ground. Digging! Not a doubt about it. A mine! No mistaking the sounds.

I started to wriggle back. A couple of Hun flares went up almost directly above me. A Boche in the trench in front, close by, saw me, and gave a yell as the flares died away. I jumped to my feet and made a dive which landed me right up to the enemy parapet. I dropped and wriggled close to the sandbags at the base of the trench wall before the next flare lit up the night. I could hear the Huns talking. They spread lights about fairly thick for a bit, and Mausers from the loopholes above my head spat wickedly. Luckily for me they apparently took a dead Boche not far away for my remains, though there was much discussion about it.

My fix was bad. So long as the flares kept going, which they bade fair to do till dawn, I would have no chance to get home. I thought of the Kid and wondered what he would do in such a quandary. I was obsessed with the thought that I had bungled his job.

Then something unusual happened. High and clear through the night came a flute-like voice. The first notes told me what was coming. An exceptionally fine singer was starting Gounod's "Ave Maria." The voice soared higher, and its tones grew richer and more divine.

The firing stopped. The men in both trenches, friend and foe, held their breaths as the sweet notes floated over the two lines. Not a trench-flare nor a Verey pistol broke the darkness. Everyone within hearing of that wonderful tenor seemed under a spell. I listened, rapt, forgetful of everything save the grandeur, the solemnity of the music.

"Ave Maria." I again thought of the Kid. He was very fond of that angelic aria. Where was he? Above there, somewhere? With my thought of him came the thought of his work that I had taken on and had failed, or bade fair to fail, to finish. I pulled myself together. The chance had come. Why was I lying there as the precious moments flew past? My work, the Kid's work, might still be done.

I started back, wriggling, back homeward in the black darkness. The high notes soared on, rising and falling in the night with wondrous sweetness, and still the spell held. As the last flute-like strains died, low and caressing as the brush of an angel's wing, I gained our trench, leaped over the parapet and tumbled down to safety.

That is all there is to tell of it. I asked the Captain who had sung so divinely. He did not know. None of our lot knew. We asked the battalion on our left, and then sent to the Royals on our right, but both had been too far away to hear, apparently. Our men swore that the voice did not come from the Boche trenches. It seemed higher up, they said.

So we never knew.

At all events, it saved me. More important, it made it possible for me to finish the Kid's job in good shape, for we spoiled that new Hun mine while it was still in the making.

God's Green Country

A Tale of the Ups and Downs of Country Life

By ETHEL M. CHAPMAN

"Not unto the forest, O, my lover,
O my lover, do not lead me to the forest,
Joy is where the temples are, lines of dancers swinging far,
Drums and lyres and viols in the town,
And the flapping leaves would blind me, and the clinging vines would bind me,
And the thorny rose-boughs tear my saffron gown.
I will love you by the light, and the beat of drums at night,
And the echoing of laughter in my ears,
But I fear the forest."

—Greek Folk Song.

CHAPTER X.

IT was Christmas Eve. A soft light snow had left the country white and downy as a young swan's breast. As if the feathery padding of the road had muffled the engine, the car cut along quietly as a boat, but the clear, cooing tones of the girl's voice carried far, and her laughter echoed back from the trees like the mimicry of some mischievous nymph. In the after calm of the year's first snowstorm the purity of the earth and air and sky gave the world that touch of unreality dear to poets and lovers and Marjorie and Billy had come out in the late afternoon, as they often did on holidays and Sundays, to breathe for miles the air of the hills, to watch the lights of the city rush out through the dusk like streams of little racing fires, and to drive wherever fancy led them, stopping somewhere in town for supper and coming home slowly, very slowly and quietly in the dark.

"Let's take some road we don't know," the girl suggested. "Let's go over the hills, and then just when it's getting dark we'll come to the edge of the heights somewhere and coast right down into the city, like we did the first night you came here—do you remember?"

"Every second of it."

"That was in the spring. Even the town was half asleep and lazy after the winter's dissipation; to-night it will be as gay as a debutantes' ball. In the country it was muddy and the fields and barns and fences stood out ugly and unashamed of themselves, like some old scrub-woman. Now the snow comes and gives her a new dress, you see, and here she is, a lady in white fox and diamonds. Wonderful isn't it, what clothes will do? But underneath she's still the same old scrub-woman, the work-driven, squalid country. How I pity the people who have to stay here all their lives. Where are we going?"

Billy had turned up a new road, the winding wooded avenue leading to the place on the hill. He had felt that if she could ever see its beauty it would be to-day, with the glow of the sun still pink above the cedars jagging the horizon and the early moon making sharp shadows and glittering open spaces on the snow. Her last burst of sympathy for the people who had to live in the country was not encouraging, but he was so filled with the spell of it all himself that it seemed as though he must fire her with some of his enthusiasm.

At the crest of the hill the car stopped and he told her to look. There was nothing tangible to see but a deep expanse of level whiteness with a windbreak of black pines at the back, and one tall gnarl-limbed maple sheltering the remains of a ruined old house. She looked about blankly and asked:

"What is it?"

He smiled. "There isn't much to see, yet," he said, "but I've always wanted to show you this place. I think it could be made a little heaven and I want to buy it. I can just see what it would be like on a night like this with the light shining from the windows and the sparks from the fireplace shooting right up to the sky, and inside——"

"But it would cost an awful lot to fix it up and when you did get it done it would be so far from everywhere. But then you like to be away off from people and towns, don't you?"

"It wouldn't matter what I liked. A man can make his home anywhere; I suppose something of the savage in him likes to get out to the wild places. You think this is lonesome then? It seems the beginning of an Eldorado to me. Listen to the trees. On the stillest days you can hear those pines starting up with a low, cooing little shiver, growing louder and louder till you'd think there was a forest of them. It can be the sleepiest, or the thrilliest sound in the world, I think."

"To me they sound like someone crazy, crying. Let's go." She shivered crept deeper into her furs and consulted her little French wrist-watch. "Do you know it's getting late?" she finished a little wearily.

Then when the car had started she moved up closer—it was one of the trifling signs that always set him piling up the robes again, and scarcely above a whisper she confided.

"I'm sorry I don't like your place. I remember when I was very small, the little boy who played with me, came one day to see my new play-house. It was the dream of my heart—up to that time—expressed in wood and paint and wonderful miniature furnishings, and I did so want him to like it. But he came and looked it over for a long time, frowning, with his hands in his pockets, just like a man. Then he said, 'I don't like it. It's too sissy,' and he walked right away. But when I cried, he came back and he said, 'I don't like your house, but that isn't saying I don't like you, and 'cause you're a girl, I guess maybe I like you better 'cause you like a house like that.' . . . You understand, don't you, Billy."

She was rather startled by the intense searching that suddenly came into his steady eyes. His right hand was leaving the wheel and she wasn't ready for this. She laughed gaily to break the tension, and finished her parable.

"I believe I had almost made you forget that we're grown up. Things aren't

Perhaps there is no story of these war days which carries a more steadying influence than God's Green Country—a happy title selected by Miss Chapman for her delightful portraiture of real farm conditions in Canada. We greatly mistake if the future does not rate this book highly as an historical romance of the first order. It began in the September number. By keeping the magazine on file readers will have the whole story in accessible form.—Editor.

A sewing class of girls in front of the school building at Gladstone, Manitoba. Each girl is wearing a middy waist made by themselves. Miss Blackburn, the teacher, stands in the doorway.

nearly so simple as when we lived in playhouses, are they?"

"Heavens, no," he agreed, and went back to his wheel.

To hide the shock of the sudden contact with earth after his insane flight he turned his attention to the car, inquiring lightly:

"Shall we fly for a mile or two? There aren't any speed laws here, nor many living things to run over. It's one of the advantages of a place as wild as this, that you can do just as you like."

So they raced against the wind, the girl looking ahead to catch the first glow of the city lights, and Billy staring blindly at the road and hearing the crying of the pines waiting for a house and warmth and light and life to shelter. He was beginning to accept the haunting suspicion that it wasn't just the fear of the hard, lonely places that was responsible for the girl's indifference, but that all his constant, ardent reaching out for her had failed absolutely to awaken anything deeper than a passing delight in being courted. Some unaccountable flash of disillusionment made him wonder if she was capable of anything more than this weak, kittenlike playfulness, and as quickly he cursed himself for being an unchivalrous cad, and came to, with all his usual interest.

They were not strangers to the most select cafés in town, and they found a table in a corner close to a blazing fire, half screened from the crowd, but where a panel mirror reflected all the gaiety of the place. They made a very human little pantomine, these pleasure-seekers—over made-up women with bloated, sated-looking men; gay young college crowds glowing and noisy, trooping in from an afternoon on the ice; engaged couples making the most of one of the rare celebrations which the limits of their purses and the needs of the half-furnished nest would allow, and other less elated, but obviously more comfortable men and women whom one could spot immediately as having left the baby with a grandmother and come here to snatch a respite from family ties, only to fly happily back to them again and ask, "after all what did we ever see to prize so much in what we called our liberty?"

At odd moments Billy found himself prospecting their cases in the light of his own ambitions; most of the time he was unconscious of any presence in the room other than the girl sitting opposite him. He was also proudly aware of other admiring glances in her direction. It was the same dazzling attraction that had made her so popular at dances and house-parties almost before she was grown up. The wild rose color in her cheeks, the gold in her crinkling hair, the bits of just the right shade of an amethyst gown peeping out from her white furs, and the wonderful little hat that had evidently been the breast of a bird—all had their part in the effect. More compelling still were the wavering blue eyes with their little brown specks. They seemed very mysterious and bright and childishly troubled to-night, but that was because she was searching the crowd to see if there might be "anyone she knew."

Coming back from one of these explorations she suddenly seemed to remember that she owed some attention to Billy. Without thinking much she inquired gaily:

"When you go out to your farm are you still going to come in here sometimes to celebrate?"

"Every Christmas Eve anyway. You don't think I expect to make a hermitage of the farm, do you?"

"I didn't know. It's so hard for me to get your viewpoint." The tone implied that she would give worlds to acquire the art of getting his viewpoint. Then, lest his courage should surprise her again she rattled on.

"And you will say to your wife, 'The girl who taught me to like these things couldn't have made a pound of butter to save her life'."

He didn't laugh and he didn't play up to her banter as he generally did. He looked away from her, and she knew he was angry. She leaned forward, but failed to get his attention, then she called softly:

"Billy——"

It was the irresistible childish plea to be forgiven, but for the first time it failed to move him. His hand was resting on the table. She reached across until her fingers almost touched his and again she called, "Billy," but it was almost a whisper this time and very unsteady. The brown fingers closed quickly and warmly over the reconciliatory hand and held it for a minute longer than necessary, but the hurt had not quite left him. With all her "socially trained" delicacy, he realized that she had no scruples about rushing into what he considered sacred ground. The armour of her frivolity was always ready as a check to his seriousness, and while she could seem alluringly in earnest herself sometimes, the minute he turned to follow her again she brought his pursuit down to the level of common philandering. Suddenly he reddened and slowly released her hand; at the next table a sleek, muddy-eyed man with a theatrical-looking woman, was doing the same thing.

Whether it was an effort or not he caught the spirit of her gaiety very well after that. On their way to the theatre they called at a florist's and he experienced a new, thrilling sense of nearness in being allowed to hold the long-stemmed roses in place while she pinned them to her dress. It was nearly midnight when their car threaded its way out from the flashing, snorting tangle of limousines and taxis, and gradually leaving the lights and the noises behind, purred out toward the snowy darkness of the hills. The moon had gone; there were no lights in the houses, and they felt strangely alone and quiet.

Presently in a thin, groping little voice she said:

"I almost made you angry to-night, didn't I?"

He laughed. "I'm afraid you did. A man is generally an awful crank about some things and if a thing means very much to him he can't stand to have it handled lightly."

"You mean——"

"That I love you. You see, I've been trying so long to let you know. Most of the time I see what a fool I am to dream of such a thing. Then sometimes I go blind for a while and almost wonder if you don't care a little; but all the time, whether you care or not, it seems impossible to think of going on without you."

He was talking with a hard edge in his voice, both hands gripping the wheel as though he could manage them better if he kept them there. When she didn't answer, he turned and searched her face hungrily for a minute, but looked away again unrewarded.

"Don't worry about it," he cried gently. "I almost know you couldn't. I shouldn't have said anything."

Marjory was not accustomed to such unsensational *dénouements* as this. She caught her breath in something so nearly like a sob that he came back more penitent that ever.

"Don't," he pleaded, "It's all right. I shouldn't have told you."

"But I didn't say that I didn't care—" She was going on to explain that a highly emotional nature was capable of varying shades of caring, but there was nothing in Billy's simple code of ethics to anticipate such a fine analysis of the case. Perhaps he waited for one breathless second to be sure he had heard aright; the next, she was pushing him away.

"How could you!" she stormed. "How could you!" She was angry and injured and tearful—or she seemed to be, and for the minute the thought of his mistake staggered him. Then very quietly he said:

"I didn't understand, and I'm sorry; but I'm not ashamed. I know I've offended you, but you wouldn't be offended if you knew what I meant. You think it's savage and primitive. It is that, I guess; but I want you to know that at least it's genuine, and—it's *not* brutal. If things had been different, if you could have cared and married me, you would know."

Marjorie was considering. It was not her first experience of this kind. You can't make a practice of playing with animals and not get mussed up sometimes, but with a girl in her social position most men of the "socially experienced" set would not have blustered into things so whole heartedly. If they did, beneath their cajoling apologies afterwards, there would lurk a quizzical half-smile, as much as to say, "What did you start the thing for? Just what's in the game?" It generally meant the end of a flirtation and the loss of the girl's prestige in that particular quarter; but, somehow, Billy had left her with all her self-respect. It was hard to know what to do, for even with the weak passion of which her selfish make-up was capable, she had unwittingly stumbled into a little love herself.

"I—I don't want to be silly about this," she advanced magnanimously after a while. "I'm not offended, but don't let's spoil everything by being serious on our last night together."

"Our *last* night?"

"The last for a while, anyway. I guess I didn't tell you that I'm going to town for the winter—my really official *début* in society. Auntie wants me, and Dad and Mother have consented to let me go for the season. You see," she explained rather plaintively, "I've never really had an opportunity of trying my wings at all, and I just crave life and excitement and company. Maybe someday I'll settle down and be the domestic little wren you'd like to see me; but don't you see, I'm so young—I don't want to get married. I just want to live for awhile. I think a winter in town will do me lots of good. Auntie knows the very best people, and she entertains beautifully. Would you,—I wonder if you'd care to see some of my little dresses?"

Later in her luxurious little sitting-room she brought out the "little dresses"

and caressingly displayed them one by one for his stupid admiration. They were very artful creations and considerably expensive, but Mrs. Evison, who appreciated the value of clothes as a social asset, considered them a good investment for her daughter. To Billy they emphasized how meagre she would find the kind of life he could give her, so far as purchasable things were concerned.

"You should consider yourself a very privileged person," she told him archly. "I don't know another man I'd show them to, but you won't be there when I wear them, and I just couldn't go without letting you see them. I wish you were coming, too. I hope you won't be lonesome when I've gone."

"Can I come to see you?"

She considered, surveying him slantwise. "If you'd asked me that yesterday, I might have said 'yes'; but after to-night —I wonder. You'd better wait. Maybe I'll send for you."

When he was leaving her he begged:

"I can see you to-morrow, anyway, can't I? You say you leave the day after."

"I'm sorry, but we're having a little dinner-party to-morrow. Dr. Knight and some of his friends have planned for a sleigh-ride. I guess I'll have to say good-bye to-night." Her voice seemed to be trembling a little. "And whatever happens, I'll always remember our little times together as some of the dearest of my life. You've been very good to me, Billy, I know. Whatever happens, you won't think I've been heartless, or that I haven't cared at all. You're so much more generous than most men. I've read, somewhere, that where a girl is concerned, men are generally like boys setting out to catch a bird. They have a cage and they want a bird for it, and someone has told them that they can catch one by putting salt on its tail. Whenever they think they have just caught it, the bird flits off and waits till they come up again; it doesn't want to go into a cage. When it gets tired being pursued and flies away out of reach altogether, the little savage in them crops out, and they throw stones at the bird for leading them on. You won't ever think I did that, will you?"

She felt rather alone after he had gone, but then she knew that he would come back any time she wanted him. For the present alluring possibilities were awaiting elsewhere. Dr. Knight had been very attentive in the way of motoring out to see her, but of course a great many liked to motor out to pleasant country homes on holidays. Once launched in society, under the prestige of her aunt's influential wing, the situation would be different. From various angles she consulted her mirror, and decided that her prospects were good. She could already picture the quaint old Anglican church in the village decorated for her wedding; there would be lilies and smilax—she had often talked that over with her mother, and she would have a little empire dress, very girlish and bride-like, with her veil caught up in a Juliet cap. She visualized herself very distinctly coming down the church aisle. It would be very hard for Billy, for of course he would be there to follow her with that tragic worship in his sober eyes —it was far from likely that he would ever love anyone else—and when he came to say he hoped she would be happy, she just knew she wouldn't be able to keep the tears back, and she would lift her face—heavens, no! —she couldn't do that. Why everything would be at an end with Billy, and she would have to go away with Dr. Knight. But she would know that he would be thinking about her and loving her just the same. And whenever she came home to her mother's receptions and things, she would see that he was invited, and she would be very gracious to him.

A wicked little voice suggested another idea. What if she should come back sometime to find Billy in love with someone else? Men were so queer. She had known them to be married a year after some girl had supposedly broken their hearts, and to actually fall desperately and permanently in love with their wives. The possibility made her furious. If only Billy had had Dr. Knight's position,—he would have been so everlastingly good to live with, and recklessly she made up her mind that if nothing materialized from her season in town,—if Dr. Knight remained indefinite, she would come back and marry Billy. She couldn't go on a farm with him, of course, and she couldn't live all her life in small towns like this, but he could get something else to do; she had heard a man tell her father that he hoped to see him in the federal parliament some day. So if nothing else developed, she would marry Billy. The idea left her feeling beautifully generous and secure.

(To be continued)

June Comes Back

Continued from page 16.

worse distraction. Never mind. Let them go and acquire pretty daughters of their own. This is mine. It's mighty good to have you back again, June. I've been counting the days and hours, and drivelling slow they have been. Tired?"

"Not a bit," she replied. "But the train seemed awfully slow. Still I am here at last. Let's hurry home. I want to see what you've been doing there. Baggage checks? I know I have them somewhere. Wherever can they be?"

SHE rummaged frantimally through a ridiculous little handbag, piling the contents into Jack's hand, handkerchief, purse, collection of pennies, three nickels, vanity box, postage stamps, bits of ribbon, and ends of dress-goods pieces. There was almost everything but baggage checks. Jack sat down on a trunk in a state of perfect delight. She was a woman all right, and he felt the joys of domesticity creeping over him.

"In the cuff of your sleeve, perhaps," he suggested. "No? Perhaps in the band of your hat, after the offensive manner some conductors have in their distribution of tickets. Pockets, then. You haven't any? Well, I don't know. Pure ignorance, honey. There's old Nina, the Italian woman, keeps hers in the recesses of her fourth petticoat. You count 'em, one-two-three and four. The first is, or once was, pink, second a subtle kind of glowing ginger, third—well, never mind, if you don't want to hear, but the pocket is in the fourth. Now Mrs. Dodge, on the other hand, keeps her money and things valuable in her stocking. You look around the other way, then when you hear the elastic snap, you know everything's all right."

"Don't be ridiculous, Jack," said June severely.

"I'm not," he replied. "Only happy. Ah! there they are at last," as June discovered them in the inside pocket of her purse.

"I knew I put them somewhere," she said, triumphantly.

"I was positive you had," he agreed cheerfully. "Now we'll be off. Dinner is waiting. I can hear the ghost of the fatted calf enquiring why he was sacrificed if he was to be scandalously overdone. Hop into the car, and we'll be home in no time."

"What a beauty it is, Jack," she said delightedly as they sped smoothly along the road. "You'll have to teach me to run it, and I'll come down and rout you out of your old office, and take you for long evening spins, just the two of us."

"That was my artful object in buying a two-seater," he explained. "Neighbors not wanted. Just daughter and daddy. Do you know, June, when I saw you there on the train, I felt a hundred years old."

"Why?" she laughed.

"The little girl in pigtails who used to fly over the country with me on horseback, was gone. I'll stop dyeing my hair, resign myself to the inevitable, and settle down to age's sobriety," he replied.

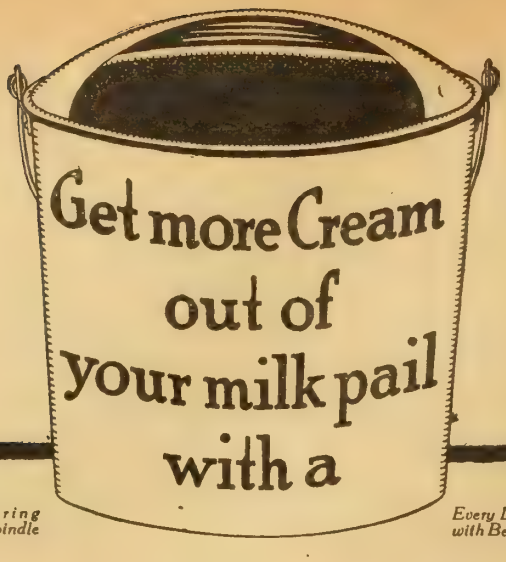
"Don't be silly. You are only thirty-four, and you haven't changed a bit. If I didn't know your vanity, I'd say you are growing better looking than ever. Oh, Jack, be careful! You nearly ran over a chicken," she cried.

"It ought to know better than to cross my path when I'm dazed by flattery. Well, here we are, and there are Mrs. Dodge and Eliza. I'll run the car round and be back directly." And he helped her down.

WHEN he entered the dining room he could hear her flying from room to room upstairs, exploring the new house. Presently she came down looking prettier than ever in a dainty white summer dress.

"What a wonderful place you have made of it, Jack! I can't sit down till you have shown me all over it. I've coaxed Mrs. Dodge to hold back dinner for half an hour," she said eagerly.

Away they went together, her hand on his arm. The alterations had been one of the year's supreme pleasures to him. he had practically rebuilt the house, only the outer shell of the old place remaining. There was a pretty little suite set apart upstairs for June, a spacious daintily furnished bedroom, with a cosily appointed boudoir connecting with it. Expensive rugs, good pictures, and a case of well-chosen books indicated the thought that he had expended to make the rooms just what would give her pleasure; and her delight was his reward. Downstairs there was the new baby grand piano to be tried, books in the snug library to be sampled and admired, wonders of the kitchen to be explored. It was the crowning moment of the great day when he saw



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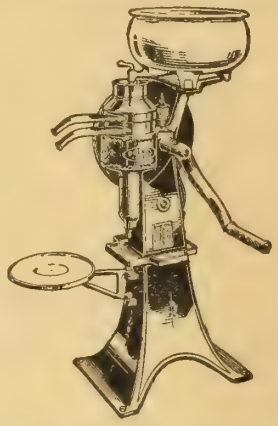

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her opposite him at dinner, prettily busy with the teacups. The little mistress was back, and the house had become a home. After the leisurely meal, there were barns and stables and the dairy to be visited, then there was a stroll to the lake, and an hour's delight on the pleasant waters.

"Tired," he asked her, when again they stood before the house, and looking down on the darkling water. She had been very quiet for some moments.

"No, I'm just perfectly happy," she answered, her voice faltering a little. "It's all so wonderful, your thought and goodness, Jack. If only Katie had lived to enjoy it!"

"I want you always to be perfectly happy, June," he said gently. "It was what Kate wanted. I think she knows all that this means to us, and is happier because of our gladness."

They went into the library. He had planned this moment before in his quiet hours. There were the keys to be handed over to her—outward tokens of her headship in the house, the passbook, with her name written in it, and the smiling timidity. They laughed and joked over it, then became very serious, and afterwards laughed again. He explained to her his abdication of the house rulership, her supremacy over Mrs. Dodge, and Eliza, and himself. She listened, keys and books in her hand, and he watched with quiet delight the alternations of gravity and smiles on her upturned face. He could again hear Kate's pleading voice:

"She has fine silky brown hair, and pink rose cheeks, and teeth as white as milk. And the laughter of her! It goes to the heart like sweet, warm sunshine."

After she had gone to bed, he sat long in deep thought. He had been a successful man, had known his hours of triumph, he was rich at thirty-four, and would be much richer, but never before had the savor of success been so satisfying.

II.

Darkness had fallen on the grey autumn day. It had been a day of heavy rains and tempestuous winds, that tore the brilliant foliage from the trees, and beat it in the mire. The clerks had gone away and Beresford was alone in the offices, finishing some delayed work. He was about to call June up and tell her he was leaving for home, when a knock sounded on the door, and, in response to his call, two persons, a man and a woman, entered. They were strangers to him, both elderly, the man short, bearded, dapper, the woman with a pleasant, aristocratic face. Jack rose to meet them. What their errand might be he could not guess, but a vague uneasiness stirred him.

"Mr. Beresford, I believe." And the man extended his hand. Jack judged him to be an Englishman of the superior class.

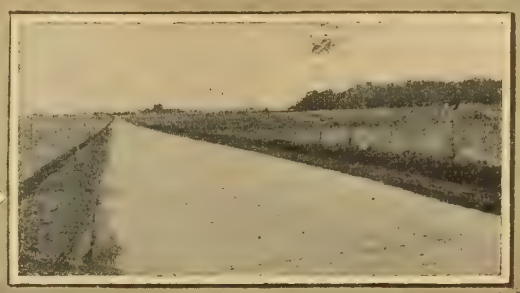
"My name is Cranston—Sir William Cranston," he said. "Lady Cranston—Mr. Beresford." Jack bowed at the introduction, and placed chairs for them.

"We were directed to your residence from the rectory," explained Sir William. "We met there your—ward, Miss Summers, and after some conversation with her, decided to call upon you here even at this late hour."

"I was about to leave for home," said Beresford. "Won't you let me drive you

The Road of the Past

The Road of the Future



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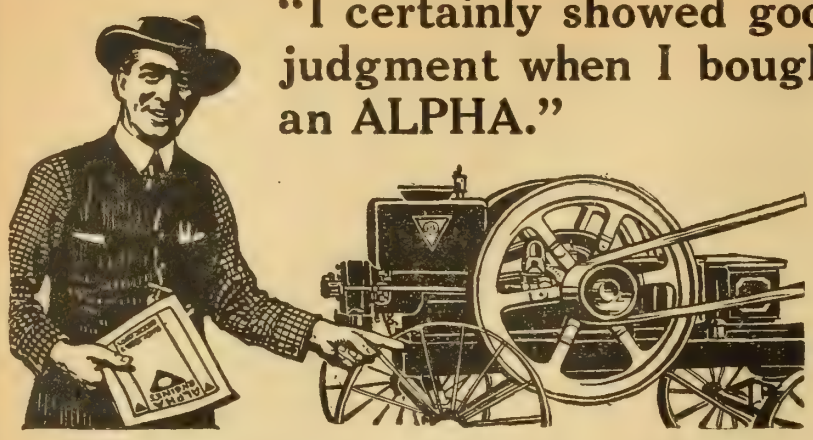

"Before I bought a gas engine there were two or three that looked pretty good to me, and there was one, especially, offered at a considerably lower price than the ALPHA, that I came near buying.

"When I got thinking the proposition over, though, I figured that the ALPHA must be worth all its makers were asking or else it wouldn't be outselling the cheaper engine. So I finally picked the ALPHA, and I know now that I didn't make any mistake. One of my neighbors saved a few dollars (as he thought) by buying the other engine and he wishes now that he had followed my example and bought an ALPHA."

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Boys—

Get an early start. You do not want to be handicapped later on, do you?

We have a plan by which you may gain real live salesmanship experience—come in contact with prominent men—and earn for yourself a nice income—something worth while—at the same time.

Boys all over the country are earning lots of money and are acquiring that business experience which comes only by contact with men. A card will bring full particulars to any boy or his parents.

Agency Division

THE MACLEAN PUBLISHING COMPANY LIMITED
143 UNIVERSITY AVENUE, TORONTO

there? It will be much more comfortable."

"Thank you, I think we can explain our visit more satisfactorily here," said the visitor. "It is in reference to Miss Summers that we have come."

"It will help to an understanding of the matter if we explain at once that June is our granddaughter," said the lady, speaking for the first time.

"Your granddaughter!" exclaimed Jack, his face hardening.

"It is a long story, Mr. Beresford," said Sir William, evidently ill at ease. "And not a pleasant one for us to relate. June's mother was our daughter. She married, strongly against our wishes, a Mr. Summers, a young artist. Estrangement followed. I am not seeking to justify the severe view we took of her marriage at the time. It has been a great sorrow to us, and will ever be such. She was proud, deeply attached to her husband, absolutely loyal to him, and when we forbade them the house, she took us at our word. We lost sight of them, and understood they had gone abroad. The time came when we longed for reconciliation—she was our only child—an opportunity to make what amends we could. Our search failed. Only recently we discovered the truth, and you may judge its bitterness to us, that she died in want, widowed, and destitute."

The depth and reality of the man's sorrow softened Beresford's first judgment.

"We learned of the baby girl, June, and from the Orphanage officials were enabled to trace her here," continued the speaker. "We have heard with gratitude we can never adequately express of your goodness to the child."

"You have told this to June, that she is your granddaughter?" asked Jack.

"Yes, perhaps we ought not to have done so until we had seen you, but it seemed like meeting our own child again. The likeness is astonishing, as no doubt you have observed from the portrait in the locket June carries. Perhaps you can understand our impulsiveness," said Sir William; and Jack nodded.

There was silence for some time, Jack's mind being bewilderingly busy. "And, having seen June, what further do you wish to say?" he asked, challenge in his voice.

"We should like to have her with us in her mother's place in our home," the man answered.

"By what right?" Jack demanded.

"By no right. I acknowledge we have forfeited that," was the reply.

"You abandoned her mother, your only child, allowed her to sink into abject poverty—death for all I know. Think of a baby, a baby girl, alone, at the mercy of any evil chance in a London slum! Sometimes, as I have looked upon her, I have trembled to think what her fate might have been, and you come to me to ask me to give to you, who once failed to guard your own, the girl who has come to mean almost everything to us! She is almost a woman now. Ask her to decide. I know what answer she will give you," said Jack.

"All you have said is true," replied Cranston. "She is deeply attached to you. But we had hoped you might, in her interest, and out of regard for her, see

Continued on page 57.

Where Can I Get It?

Particular information is often desired and this information is generally compiled somewhere. To get into possession of it is the great idea of the hour.

There is a department in each of our agricultural colleges dealing with the subject and a letter to that department will often land you your information.

Then there is the Central Experimental Farm staff where questions on crops, fruits. pastures, garden, insects, plants, experiments on feeding, planting, hedges, building, etc., may be answered.

The experiment stations in each province supply data.

The District Representatives in Ontario are forming real centres of information in each county.

There are encyclopedias on agriculture and books on almost all subjects which may be obtained by inquiry of THE FARMER'S MAGAZINE.

The Rural Mail Department of THE FARMER'S MAGAZINE *is open free at all times to legitimate queries by our subscribers.*

The International Institute of Agriculture at Ottawa is compiling a vast fund of information from other countries as well.

The various departments of the Provincial and Federal Government publish data on the subjects coming under their jurisdiction.

Public libraries should be used by farmers. If a farmer is on the board useful agricultural works are generally added.

Each farmer should have a library of his own on the subjects in which he is particularly interested.

Many farmers keep envelopes where clippings are put from current articles under proper headings. It is easy to refer to any subject under this method.

The U.S. bulletins cover a wealth of subjects and are issued by the Department of Agriculture, Washington, D.C. These can be secured by the forwarding of 5, 10 or 15 cents, as the case may be.

IN DEVON WOODS

By EDITH DART.

In Devon woods are waking
The first wild daffodils,
Now primroses are breaking
Through red earth of the hills.

Methinks the lads of Devon,
Who fight on many a shore,
Would think it bliss of Heaven
To tread these lanes once more.

Do they, those others lying
Far from their land of birth,
Dream yet, last foe defying,
Of this familiar earth?

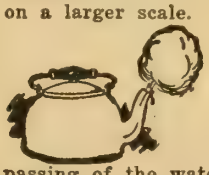
Though leagues from Devon sleeping,
Unfaltering memory
O'er them a watch is keeping
By western moor and sea.

—In the Windsor Magazine.

NATIONAL THE MOTOR OIL FOR NATIONAL USE

Why NATIONAL CARBONLESS Motor Oil Is Better---Why It Costs More---How It Is Made

Steam that escapes through a tea kettle spout, if caught and condensed, would be pure water. Distilled water is manufactured on this same idea, only on a larger scale.



Along the sides and at the bottom of the tea kettle scale is formed and accumulates — the residue that is left over after the passing of the water into steam.

The same principle that manufacturers of distilled water use is carried out in the manufacture of National Carbonless Motor Oil.

Imagine a tea kettle that will hold 25,000 gallons, then you have some idea of an oil still used for this purpose. Into one of these huge oil stills goes the highest selected Crude Oil from which National Carbonless Motor Oil is always refined, where the oil is heated until it forms a vapor. This vapor is then condensed into a liquid distillate (the same as the vapor from a tea kettle spout is condensed), further refined and then filtered. The result is a clear, clean, carbon-free Motor Oil—National Carbonless Motor Oil.

Residue oils left over in the still never enter into the manufacture of National Carbonless Motor Oil. Where such residue is used an oil is made of very inferior lubricating properties and can be and is sold at one-half the price of an oil made as is National Carbonless Motor Oil.

A Motor Oil loaded with residue will break under heat and fail to perform its function. The residue and deposit which becomes incandescent, causes pre-ignition under heavy duty and finally, after continued use, coke-like carbon forms. Just as scale is formed in the tea kettle.

Suppose you catch and condense escaping vapor from the tea kettle spout? You have pure water. Place this distilled water in a brand new tea kettle and reboil it; you will find little if any scale in tea kettle No. 2. The same experiment applies to National Carbonless Motor Oil.

National Carbonless Motor Oil, distilled into a vapor, is further refined and then filtered —leaves no carbon, and lubricates most efficiently.

A juicy sirloin steak costs more than chuck steak. Wool is more serviceable than cotton. Gold jewelry gives satisfaction long after some Christmas brands have turned green. Quality in anything costs more than the low grade article in National Carbonless Motor Oil you get quality in manufacture, service and efficiency in use—full value.

You should use National Carbonless Motor Oil for economical and perfect lubrication.

Other NATIONAL Products

White Rose Motor Gasoline. Always uniform. Every drop is continuous power. Pure, dry, carbon-free

En-ar-co Tractor Oil. Especially made for modern tractors. Proper body to lubricate most efficiently—saves cash in machinery depreciation.

National Light Oil. Bright, clear light for lamps. No smoke, odor, charred wick or chimney. Uniform heat for incubators and brooders. Best for oil heaters and all purposes for which the best burning oil is required.

National Motor Grease. For Differential, Compression Cups, Transmission; gives perfect lubrication and is manufactured especially to be used for any and all purposes, all around the motor car.

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COOL AS A CUCUMBER

Just why a cucumber should be recognized as the symbol of coolness is a puzzle. But everybody has heard the old saying, and among the acquaintance of everybody there is at least one person of whom people say, "Why—he's as cool as a cucumber!"

And what a boon such a person is, in times of sudden excitement! He just naturally takes charge of the situation and manages to keep others from losing their heads completely.

Quite often, this cool-headedness in cases of emergency, has its origin in superior knowledge of what it is best to do under the circumstances. Take, for instance, a person—child or adult—becoming burned or scalded. Don't get excited. That's the first thing to remember. The next thing is to apply immediately some Dr. Thomas' Eclectric Oil. The person that knows this, and takes care to have a bottle of this fine, old household remedy always at hand in the family medicine chest, is far more likely to keep as "Cool as a cucumber" than a person who hasn't the least idea what to do.

Of course, Dr. Thomas' Eclectric Oil, has more uses than affording quick and sure relief in cases of burns or scalds. It is equally valuable for alleviating the pains due to sprains, strains or bruises, and for healing all manner of cuts and scratches. It is also excellent for sore throat or chest.

Nor does its marvellous utility cease with members of the household. It is unexcelled as a good, all-round remedy for many of the ailments that afflict horses and cattle. Many a valuable horse has been saved from permanent lameness by quick treatment with Dr. Thomas' Eclectric Oil.

Keep a bottle in the house and another in the stable. You'll find it useful on many occasions and a sure way to reduce both doctor's and veterinary surgeon's bills. But be sure you get the genuine, by asking for it under its full name—"Dr. Thomas' Eclectric Oil." **Price 25 cents At All Dealers and Druggists.**

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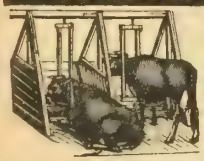

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Canadian orders filled from Canadian factory.

All correspondence should be addressed to the home office. State in inquiry if you prefer booklet in French or English

In the Apiary During the Honey Flow

Swarming, wintering, and foul brood, these three stumbling blocks in bee-keeping. And the hardest to control is swarming. I often wonder why experienced apiarists advise beginners to make their increase by natural swarming. I believe

Worker Bee, Queen Bee and Drone.

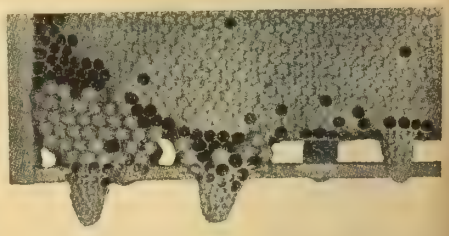
swarming reduced the honey crop at least a third, and the beginner who follows this advice will have an apiary with the swarming instinct born and bred in it. As soon as his apiary reaches the desired number of colonies he will have something to *unlearn.* The prevention of swarming should be studied from the time he gets his first colony, and increase should be made in other ways.

SWARM CONTROL

The main factors in preventing swarming are: large hives, ventilation, and rearing our Queens from colonies which show no desire to swarm. I have adhered to this rule for ten years and still I occasionally find a colony which is in the best condition to harvest a honey crop, preparing to swarm and spoil the prospects for a good surplus of honey. During fruit-bloom my colonies are built up by the method described in my last article. When they get strong enough to crowd the spaces between the combs with bees they are examined once a week. Racks of unsealed brood are exchanged with weak colonies for sealed or hatching brood. If there are no weak colonies, one or two combs of brood are taken away to make increase and racks of empty comb or foundation put in their place. If Queen cells are found containing eggs or larvae they are destroyed. The main object is to keep the Queen supplied with room to deposit eggs, and the bees to store honey. The least crowding will induce the best behaved colony to swarm, especially if the weather is warm. When the main honey flow from clover arrives, one or two combs of brood are put into an upper storey and foundation put in their place in the broodnest. The upper storey is filled out with racks of empty comb and a Queen excluder put between. Some colonies are given an upper storey during fruit-bloom without the excluder to allow the Queen more room for egg-laying. At clover bloom these Queens are confined by an excluder to the lower storey on combs containing the least brood and honey. A storey of empty combs is put above the excluder and a story with the most brood is put on top. As this brood hatches the bees fill the combs with honey. As a rule a colony which does not prepare to swarm early in clover bloom will direct its attention entirely to gathering honey, providing it is given abundance of room. However, to make sure, I always examine them once a week.

MAKING INCREASE

I usually have some winter loss which I wish to make good the following season. A comb containing eggs is taken from my best colony. A strip is cut from this comb containing a row of cells. On one side only the egg in every second cell is destroyed with a match. I now select an empty comb, cut away the lower half and attach this strip of comb to the upper half with the side where I destroyed half the eggs pointing downward. This comb is given to a colony which I have made queenless. They immediately start Queen cells on the cells containing the eggs and in two days this comb is placed in the upper storey of a strong colony to finish the Queen cells. The Queenless colony is usually weak, and while it is all right to start Queen cells a strong colony rears better Queens. Two days before the cells are due to hatch brood is taken from strong colonies (one or two combs from each) until I have enough to have three combs for each queen cell. These combs are placed in upper storeys over strong colonies to be covered with young bees. The next day they are carefully removed, bees and all, and placed in empty hives, three combs to a hive. The comb of Queen cells is now taken from the strong colony and one cell is given to each little colony. Two combs are spread apart just far enough to allow a cell to hang between the top bars. The covers are put on and the entrances closed perfectly tight with grass. The hives should be shaded from the hot sun. By the time the Queen's are hatched the bees will have removed the grass from the entrance. I usually add two more combs of brood to each young colony in a few days and fill out the remaining space with racks containing only one inch strips of foundation along the top bar. Such colonies with young Queens will fill these racks with



Corner of a brood comb showing capped worker brood, capped drone brood and four sealed Queen cells.

worker comb, but if given to old colonies they would fill them with drone comb. This is the only place where it pays to economize with foundation.

By making increase in this way our Queens are bred from the best colony, and we are not perpetuating the swarming habit. The honey crop is not affected as the old colonies are not weakened to any extent.—H. A. Smith.

After Honey Crop Already

There is scarcely any 1916 honey in the country, says Morley Pettit, of Ontario. A number of firms who have never touched honey before are out to buy this year. Beekeepers will probably do well to hesitate about contracting in advance, unless at a very attractive figure. It would seem an utter imposibility for the demand for honey to be supplied within the next year or so at least.

Bees in a Colony

A colony of bees consists normally of one Queen bee—the mother of the colony —from 10,000 to 50,000 or more workers, non-reproductive females specialized for a life of labor and, in the summer, a few hundred males or drones. These three kinds of individuals may be recognized by their size and shape.—F.W.L.S.

Protect the Birds

Every farmer should forbid shooting on his farm. Careless, pleasure-hunting outsiders often wander over our farms killing and frightening bird life away. And birds are our best friends. They do a work of holding pests in check that cannot be calculated. We could not begin to protect our crops from the easy multiplying hordes of bugs and worms, if there were no birds.

Races of Bees

Two races of bees merit consideration —the black bee and the Italian bee. In the black bee the horny skin under the hair is entirely black, whereas in the Italian the abdomen is striped with yellow. The black bee was introduced into North America from Western Europe nearly three hundred years ago and has now spread all over Canada. The Italian bee was introduced into the United States from Northern Italy in 1859. The Italian is more prolific than the black bee, gentler and less excitable under manipulation and therefore easier to handle. In regions where the summer is warm, and where most of the honey gathering takes place at a temperature above 70 deg., it is more industrious than the black bee; but the black bee is less adversely affected by unfavorable weather in spring when the temperature hovers for long periods between 50 deg. and 60 degrs. Fah., and the colonies consume less food in August. Thus it happens that the Italians are preferred by most progressive bee-keepers in Ontario and western Quebec, in the Prairie Provinces and the inland parts of British Columbia, while blacks have their strongest supporters in the St. Lawrence Gulf region and in the northern part of Nova Scotia. Italians resist European foul brood much better than blacks, and in regions where this disease occurs it is necessary to keep Italians in order to make a success of bee-keeping.

It is quite easy to Italianize an apiary of black bees. This is done by replacing

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The Engine can be used to run machines for other purposes at the same time it is running the dynamo or it can be moved to any other location with ease.

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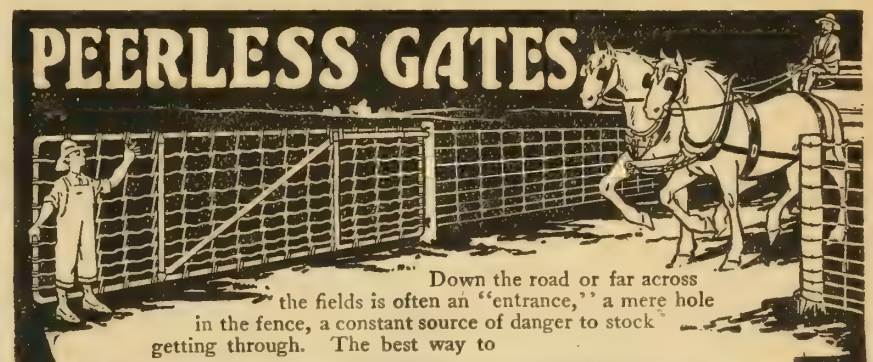

Down the road or far across the fields is often an "entrance," a mere hole in the fence, a constant source of danger to stock getting through. The best way to

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IN THE FIELD MAKING MONEY—

or lame in the barn, "eating their heads off"? One means profit—the other means loss. When a horse goes lame —develops a Spavin, Curb, Splint, Ringbone—don't risk losing him through neglect—don't run just as great a risk by experimenting with unknown "cures". Get the old reliable standby—

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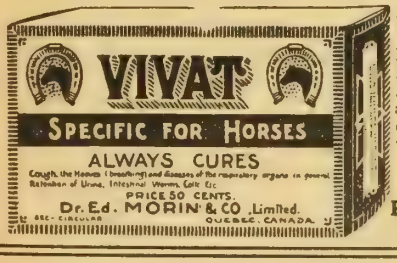

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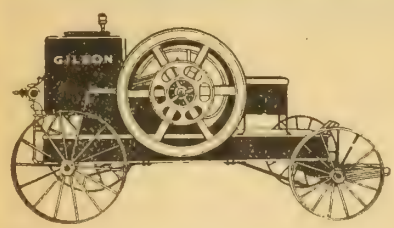

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the black Queens with fertilized Italian Queens, which may be purchased from a professional Queen breeder.

Hybrid between blacks and Italians have the prolific quantities of Italians and the hardiness of blacks, and they are often more industrious than either race, but they are rather more inclined to sting. This is especially the case with the darker-colored hybrids.—F. W. L .S.

The Honey Crop

If six hives or more are kept it will pay to purchase a honey extractor and thus save the bees a lot of tedious wax building, by returning the empty frames to the hives to be refilled. During the warm part of the summer, from about the middle of May to the middle of August, it is well to have a certain day each week to look through the hives. Examine the hives during the warm part of the day when the bees are busy. Take off the cover and blow a few puffs of smoke under the cloth which is on top of the frames. Then wait a few minutes before taking off the cloth to examine the frames.

If an extractor is used, it is well to take the frames out and extract the honey when about one-third of the cells are capped over. This will vary with the weather conditions and the dryness of the atmosphere in which the extracted honey is to be kept.

If the weather has been dry, the honey can be extracted before it is capped, thus saving the bees labor; but if the weather is damp it is well to let the honey ripen in the hive.

If only one or two hives are kept, a person can get his honey crop as chunk honey. By using light foundation in all but the bottom hive or brood nest the beginner is able to obtain his honey crop with very little trouble. When the frames in the supers or top stories are filled with honey and capped, they can be taken from the hive and the bees brushed off by means of a bee-brush.

The honey-comb can then be removed from the frames by means of a knife, care being taken to leave about one inch next the top bar for the bees to start building from.

Honey taken from the hive in this way is known as chunk honey.

In working for comb honey in one-pound sections greater care and more experience is needed; so the beginner is advised to go in for either chunk or extracted honey. Some beekeepers follow the practice of using a number of supers, placing an empty one underneath the super that has been filled; by this method the honey can all be taken at one separation, thus saving time.—R. M. Muckle.

Bee Books

R.T.D., Ontario. — Where can I get some books on beekeeping?

Answer.—The A.B.C. and X.Y.Z. of Bee Culture, by A. I. and E. R. Root, and Bee-Keeping, by E. F. Phillips, Ph.D., each sell at $2, and can be furnished by the FARMER'S MAGAZINE. The former is published in French also.

Knighthood for Seager Wheeler

A writer in the *Grain Growers' Guide* suggests a knighthood for Seager Wheeler, the noted wheat wizard of Rosthern, Sask. By all means, if knighthoods are any good, but rather cut them all off and be plain, honest men.—F.

Our Fashions

8743—LITTLE GIRLS' OR BOYS' ROMPERS. As shown, size 2 years require 1⅝ yards of 36-inch blue chambray for the rompers, and ⅜ yard of 36-inch white lawn for collar and sleeve facings and the belt. Price, 15 cents. Sizes 1, 2, 4, 6 years.

8744—LITTLE GIRLS TUCKED OR GATHERED DRESS. As shown on the figure, size 4 years will require 1½ yards of 27-inch striped gingham for the dress, with ⅜ yard of 36-inch white piqué for the collar, cuffs and the pocket facings. Price, 15 cents. Sizes 1, 2, 4, 6 years.

8739—GIRLS' AND LITTLE GIRLS' PLAITED DRESS. As illustrated on the figure, size 6 years will require 2⅞ yards of 36-inch white linen for the dress. Price, 15 cents. Sizes 4, 6, 8, 10, 12 years.

8738.—Quaint indeed is the design illustrated here. There is an underbody in collarless or open neck, one-seam sleeves in full or shorter length and a straight, gathered skit. An embroidery design can be used on the overdress.

The 14-year size requires 4½ yards of 42-inch voile for the dress, and ½ yard of 42-inch contrasting voile for facing the sleeves, neck and overdress.

8738—JUNIORS' AND GIRLS' DRESS. As shown, size 14 years requires 4⅝ yards of 36-inch crêpe de Chine for the dress, ½ yard of 40-inch chiffon for the sleeves and 3½ yards of ribbon for a sash. Price, 15 cents. Sizes 8, 10, 12, 14 years.

Farmers on University Board

Messrs. Wm. Iverach, Isabella, Man., and A. J. Cotton, Swan River, Man., are two farmers appointed to the new Board of Governors of Manitoba University. Both appointments are along the right lines. Some other provinces could take a lesson from this.

Economy has charms

when it is exercised in the tasteful selection and clever making of gowns of

"Magog" Prints (*Made in Canada*)

The saving in cost of these beautiful Prints over equally pretty cloth of other materials is very evident at first, and is emphasized as time demonstrates their splendid wearing qualities. In every yard of "Magog" Print you can depend on perfect weave, fast colors, and longer wear than you could reasonably expect.

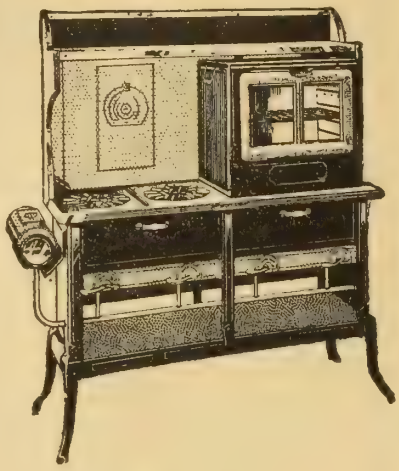
Dominion Textile Company, Limited

Montreal Toronto Winnipeg

Safe, Clean Cooking

SAFE, because the oil tank is away from the heat, and because the height of flame cannot vary. Clean, because there are no wicks to smoke or need trimming.

Burners can be regulated to give degree of heat desired, and when not in operation are left completely up out of oil contact. The asbestos lining and dead air space, and glass door of "Success" oven ensure heat retention and visible baking.



An economical cooker and baker, beautiful in appearance. 24

McClary's FLORENCE

OIL COOK STOVES *Wickless, Valveless, Blue Flame, Automatic*

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We want good, steady, reliable persons—resident representatives—who would like to make $10.00 to $25.00 extra cash each month without in any way interfering with their present duties

It is easy, pleasant, profitable spare-time work—it does not require previous selling experience—we tell you how.

Write for particulars. Just say on a postal card—"Send me your proposition."

Agency Division

THE MACLEAN PUBLISHING COMPANY, Limited
143 University Avenue - - Toronto, Ontario

8733.—Simple and girlish is this attractive model. The waist can be made high or open neck and the sleeves may be long or short. There is a bolero of novel shape, which is closed at the shoulder and under the arm. The bands, that are slipped through openings in the sleeves

and skirt, may be omitted. The straight gathered skirt measures 2½ yards at the lower edge. Size 18 years requires 5¾ yards of 40-inch white voile for the dress, 2½ yards of 8-inch satin ribbon, 2½ yards of 5-inch ribobn, ¾ yard of 3½-inch ribbon and ¼ yard of 36-inch satin for the girdle. Price, 15 cents. Sizes 16, 18, 20 years.

Women District Representatives

There are 478 women agents of the Department of Agriculture in the U.S. who explain to farmers' wives and daughters how their work can be done more easily and effectively. The greatest numbers are in the Southern States.

8711—Especially attractive is this dress with a plait at each side of the front and back of the upper part, one-seam sleeve and a gathered lower part measuring 2½ yards at the lower edge. The collar may be omitted as in the illustration. Size 36 requires 4⅜ yards of 42-inch voile for dress, 8½ yards of lace insertion and 3 yards of edging. Price, 15 cents. 34, 36, 38, 40, 42 inches bust measure.

8722—8693—The one-piece skirt measures about 2⅞ yards at the lower edge. The medium size requires 6 yards of 36-inch poplin for the dress, and 1⅛ yards of 36-inch contrasting poplin for collar and cuffs.

Waist 8722 in 5 sizes, 34 to 42 inches bust measure. Skirt 8693 in 5 sizes, 24 to 32 inches waist measure. 15 cents each.

8711 Waist—8722 Skirt—8693

Big Canning Season

The Tilbury factory of the Canadian Canners is preparing for a big season, and already ten cars of cans, averaging 48,000 to the car, have been received and packed ready for use. Over 350 acres of tomatoes and 350 acres of beans have been contracted for.

IF IT LEAKS Get MENDETS A PATENT PATCH
They mend all leaks instantly in granite ware, hot water bags, tin, copper, brass, cooking utensils, etc. No heat, solder, cement or rivet. Any one can use them. Fit any surface. Perfectly smooth. Wonderful invention. Household necessity. Millions in use. Send for sample package, 10c.
Complete pkg, asst. sizes, 25c postpaid. Agts. wanted
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INDURATED FIBREWARE TUB
SMOOTH FINISHED—NO SEAMS—MAKES AN IDEAL BABY'S BATH TUB.

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There is never any dispute about our clothing since we started using
CASH'S NAMES
Woven in fine Cambric Tape in Fast Turkey Red.

Using CASH'S NAMES is the ideal method for marking Linen, Knitted garments and woollens, which cannot be marked with marking ink.
Prices for any name not exceeding 22 letters.

24 doz.	$4.00
12 doz.	2.25
6 doz.	1.50
3 doz.	1.00

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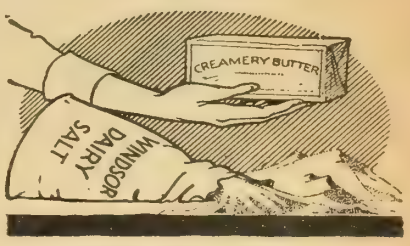
Room 43, 24 Wellington St., Toronto, or 301 St. James Street, Montreal



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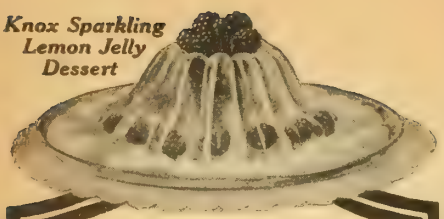
Windsor Dairy Salt
Made in Canada
THE CANADIAN SALT CO. LIMITED 223



Knox Sparkling Lemon Jelly Dessert

Soak 1 envelope Knox Sparkling Gelatine in 1 cup cold water 5 minutes and dissolve in 2 cups boiling water. Add ¾ cup sugar and stir until dissolved. Then add ½ cup lemon juice. Strain into molds first dipped in cold water and chill. Add dates, nuts, berries, oranges, bananas, fresh fruit—or canned fruit.

If fruit is added to the jelly it may be served as a salad on crisp lettuce leaves, accompanying with mayonnaise or any salad dressing.

I KNOW every woman wants distinctive *clothes* and *hats*. Every woman *should* want distinctive table dainties. By using Knox Sparkling Gelatine you can combine your own *personal* ideas with our *tested* recipes.

When you serve ***Knox Sparkling Gelatine*** to your family or guests you are complimenting and pleasing them with something that is your own creation.

With either package of Knox Plain Sparkling Gelatine or Knox Sparkling Acidulated Gelatine (Lemon Flavor) you can make *four pints* of jelly. Besides jellies you can show originality in making *Salads, Puddings, Candies* and other good things.

Mrs. Charles B. Knox.
President.

Recipe Book Free

Our book "Dainty Desserts for Dainty People" sent on receipt of your grocer's name. If you wish a pint sample enclose 4c in stamps.

Charles B. Knox Gelatine Co., Inc.
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Let us show you the way to increase your income to any extent you desire. If your present salary isn't quite sufficient to take care of "extra needs," our plan will provide the money for them.

Now is just the time to start. Turn your evenings and spare time into cash.

Full particulars on request.

The MacLean Publishing Co., Ltd.
143-153 University Ave., Toronto, Ont.

THE MONTH'S RECIPES

To do efficient work and to keep in good health people must be well fed, but the finest art of housekeeping to-day is to plan and cook wholesome, and satisfying and palatable meals without using luxuries or imported fods and to conserve every ounce of wholesome food produced.

VEGETABLE SOUP WITH MILK STOCK

4 small potatoes
1 small carrot
1 onion
Few pieces of turnip
3 cups boiling water
2 cups scalded milk
2 tablespoons butter or sweet dripping
4 tablespoons flour
1 teaspoon salt
⅛ teaspoon pepper

Cut vegetables in small pieces and cook together until soft. If necessary add enough water to make three cups. Save the water and rub the vegetables through a sieve. Add the milk to the water and vegetable pulp, reheat and bind with butter and flour cooked together. Season with salt and pepper.

POTATOES AU GRATIN

2 cupfuls cold boiled potatoes
2 tablespoons butter
2 tablespoons flour
1 cup milk
½ teaspoon salt
½ cup grated cheese

Cook butter and flour together until bubbling. Add milk slowly, stirring constantly. Cook until thick and smooth. Add potatoes and season with salt and pepper if desired. Turn into a buttered baking dish, sprinkle grated cheese over the top and brown in a hot oven.

NUT LOAF—HOT SUPPER DISH

1 cup rice
2 cups toasted bread crumbs
1 tablespoon chopped parsley or onion
2 teaspoons salt
1½ cups peanuts rolled fine.
1 tablespoon butter
1 egg
About 1 cup milk

Cook rice in boiling salted water; drain; add to it all the other ingredients, using enough milk to hold the mixture together. Place in a buttered baking dish and bake twenty minutes. Serve with tomato sauce or cheese sauce.

BAKED CORN SUPPER DISH

1 can corn
2 eggs slightly beaten
1 teaspoon salt
⅛ teaspoon pepper
1½ tablespoons melted butter
2 cups scalded milk

Combine ingredients, turn into buttered pudding dish and bake in a slow oven until firm.

CODFISH CAKES

2 cups salt codfish
2 cups mashed potatoes
1 tablespoon butter
¼ cup milk
Salt and pepper to taste

Soak the fish for two hours; drain, cover with cold water and simmer until tender. Drain and chop; add potato and seasonings, heat well, shape into round, flat cakes and sauté or fry in dripping.

COTTAGE CHEESE

Heat sour milk to 100 deg. F. and turn into a strainer lined with cheesecloth to drain. When all the whey has drained through, season the curd with salt, moisten with cream and shape into balls. The balls can be made very attractive by rolling them in a little chopped parsley. Some people prefer to leave the curd loose and serve with sugar and cream.

RHUBARB IN SYRUP

1 quart rhubarb cut in inch pieces
2 cups sugar
1 cup water

Make a syrup of the sugar and water; boil five minutes, drop in the rhubarb and cook slowly until the rhubarb is tender, but not broken up.

BAKED RHUBARB

Cut the rhubarb in small pieces. Place a layer in a pudding dish, sprinkle generously with sugar and alternate in this way until the dish is filled. Sprinkle sugar over the top, add a few dots of butter and sprinkle with grated lemon rind, cinnamon or nutmeg. Bake slowly until well done. The slow cooking gives the rhubarb a rich, red color.

RHUBARB SHORTCAKE

Make a shortcake from the following biscuit-dough recipe.

2 cups flour
4 teaspoons baking powder
1 teaspoon salt
4 level tablespoons butter

Milk to make a soft dough, and roll one-half inch thick, shaping to fit a round cake tin. Split, spread with butter and fill with rhubarb, either baked or cooked in a rich syrup.

RHUBARB PUDDING

2 cups rhubarb sauce
2 cups bread crumbs
¼ cup melted butter

Mix butter with crumbs. Arrange the rhubarb and crumbs in alternate layers in a buttered pudding-dish, having a layer of crumbs on top. Sift cinnamon and nutmeg over the top and bake until well browned.

CANNED RHUBARB, I.

Wash the stalks and cut into inch pieces. Put into a wire basket or cheesecloth and hold in boiling water for two minutes, then dip quickly into cold water. This blanching and cold dipping destroys some acid flavors, sets the color and helps in preserving the rhubarb. Pack rhubarb in glass jars which have been well washed and scalded. Make a thick syrup, using 3 pounds sugar to 1 quart water. Fill the jars with syrup, place rubbers and tops in position but do not screw down tightly. Have a wooden rack or thickly folded cloth in the bottom of the wash boiler. Set the jars on this and pack with towels between so they will not knock together in boiling. Fill the boiler with hot

water to come nearly to the top of the jars, put on the cover and boil for ten minutes. Lift out the jars, add hot syrup to fill to overflowing, seal and screw down tops.

CANNED RHUBARB, II.

Make a syrup using 3 pounds of sugar to 1 quart water. Drop in the prepared rhubarb and cook until the pieces are soft but not broken. Fill into sterilized jars and seal.

GRAHAM PUDDING

¼ cup butter
½ cup molasses
½ cup milk
1 egg
1½ cups Graham flour
½ teaspoon soda
1 teaspoon salt
1 cup raisins, seeded and cut in pieces

Melt butter, add molasses, milk, egg well beaten, dry ingredients mixed and sifted, and raisins. Turn into buttered pudding dish, cover and steam 2½ hours. Or put in individual moulds and steam about one hour.

GRAHAM MUFFINS

1 cup Graham flour
1 cup white flour
¼ cup sugar
1 teaspoon salt
4 teaspoons baking powder
1 cup milk
1 egg
1 tablespoon melted butter

Mix and sift the dry ingredients; add milk gradually, egg well beaten and melted butter. Bake in hot oven in buttered gem pans about twenty five minutes.

Cost to Produce a Dozen Eggs.

Last winter at the Experimental Farm a pen of 100 pullets whose per cent. egg yield by months ranged from 5% in November to 50% in April, an average of 27% for the six months, produced eggs at a cost of 24 cents per dozen. The percentage of egg yield determines more than anything else the cost of production, for instance, when the egg yield was 20% the cost was 21 cents per dozen, and at 40% yield the cost was only 10½ cents per dozen.

This pen was selected as it was thought to be equal in production to an average farm flock. The average dozen eggs sold for 20 cents more than the cost of feed required to produce it.

Each hen gave 99 cents over cost of feed in the six months, which though not large, shows that even at the high price of feed, eggs can be produced at a profit. The prices paid for grain were local Ottawa prices and were high. The price received for the eggs was 44 cents per dozen. This was not as high as the local market and no higher than many farmers obtained during the same time. But the farmer in addition might cut down cost, for he has table scraps, milk and other feeds that may be used which were not available here. To make a profit this year, business methods must be adopted and a few suggestions that may help follow.

No Eggs, Milk or Butter

The following recipe shows how an appetizing, wholesome cake can be made without expensive ingredients.

In many other recipes the number of eggs may be reduced one-half or more by using an additional quantity of ROYAL Baking Powder, about a teaspoon, in place of each egg omitted.

EGGLESS, MILKLESS, BUTTERLESS CAKE

1 cup brown sugar
1¼ cups water
1 cup seeded raisins
2 ounces citron
⅛ cup shortening
1 teaspoon nutmeg
1 teaspoon cinnamon
½ teaspoon salt
2 cups flour
5 teaspoons Royal Baking Powder

The old method (fruit cake) called for 2 eggs

DIRECTIONS—Put the first eight ingredients into saucepan and boil three minutes. When cool, add the flour and baking powder which have been sifted together; mix well. Bake in moderate oven in loaf pan (round tin with hole in center is best) for 35 or 40 minutes. Ice with white icing.

Booklet of recipes which economize in eggs and other expensive ingredients mailed free. Address Royal Baking Powder Co., 6 St. Lawrence Boulevard, Montreal.

ROYAL
BAKING POWDER

Made from Cream of Tartar, derived from grapes, adds none but healthful qualities to the food.

Made in Canada **Absolutely Pure** **No Alum**

Priestleys' Priestleys'

IN this year of world-wide scarcity of woolens and dress goods we are glad to be able to supply a remarkably fine assortment of

Priestleys' DRESS GOODS

Whether your fancy runs to Blacks or Blues or Colors, Wool or Silk-and-Wool Material, in heavy or light weights—you can satisfy your taste in Priestleys'.

Remember Priestleys' Dress Goods are the World Standard. Insist upon having nothing but Priestleys'.

Look for the name on the selvedge.
At all the better dealers.

Greenshields, Limited

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Urgently request that every reader of this publication write at once to

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"Gilt Edge"

The only black dressing for ladies' and children's shoes that positively contains **OIL.** Softens and preserves. Imparts a beautiful black lustre. **LARGEST QUANTITY FINEST QUALITY.** Its use saves time, labor and brushes, as it **Shines without brushing.** Sponge in every bottle, so Always Ready for Use.

Gents' kid, kangaroo, etc., 25c.

"QUICK WHITE" (in liquid form with sponge) **quickly cleans** and whitens dirty canvas shoes. 10c and 25c. **"ALBO" cleans and whitens BUCK, NUBUCK, SUEDE and CANVAS SHOES.** In round white cakes packed in zinc boxes, with sponge, 10c. In handsome, large aluminum boxes with sponge, 25c.

"ELITE" combination for gentlemen who take pride in having their shoes look A1. Restores color and lustre to all black shoes. Polish with a brush or cloth, 25c. **"BABY ELITE"** size, 10c.
"DANDY" combination for **cleaning and polishing** all kinds of russet or tan shoes, 25c. **"STAR"** size, 10c.

ASK YOUR DEALER FOR

WHITTEMORE'S
Shoe Polishes

By GENEVIEVE

Women in Party Politics

It comes as a shock, no doubt, to many a domestic little woman, whose beautifully cared for home has furnished quite enough of duty and of happiness, to know that henceforth she will be expected to take some interest, at least around election seasons, in things outside. Maybe she never even wanted the right to vote, but the privilege is hers now, and a privilege always involves a responsibility. Even if she would be content to stay at home and let the country take its chance, other parties interested will not be content to let her. Human nature being pretty much the same as it has always been, a great many women will just naturally vote the way their husbands do, which isn't as bad as it sounds when we consider that married men should be a pretty fair class of voters—they generally have some property and some children whose interests they want looked after. But barring this family influence a woman will have to do some independent thinking or she is going to be an easy prey for politicians.

We have said all along that when the franchise would be granted to women, certain political practices would be cleaned up, certain moral issues would be advanced, child welfare would receive more attention. Now, if women just join Conservative Clubs or Liberal Clubs according to the traditions of their fathers, how much better off are we going to be? A strong non-partisan body of women standing for the things women should stand for might have a weighty influence on the policy of either party. As someone has said, "Women can use the vote best by being more womanly." To do this we will have to study and think a good deal more than we have done, and go slowly. No woman with normal intellect has any right to be excused from the responsibility of making her decision and expressing it on a ballot, but until we know what we are doing, not to vote at all is a lesser evil than to vote wrongly.

Something Into Which No Trace of Selfishness Enters

Strangely enough most of our inspiration in these days comes from the heart of the most unthinkable suffering. About a year ago Coningsby Dawson, whose stories have made him famous on two continents, decided that he must take an active part in the war. He was told that the world could not afford to lose him, but he went, arriving in France soon after the Somme battle began. The following letter sent to the editor of the *Good Housekeeping* magazine is of interest not only because it gives a true picture of conditions at the front, but because it carries the inspiration we need to help us take our responsibilities at home just now:

"War's a grim game—not at all what one's civilian mind imagined; it's far more horrible and far less exciting. The horrors which the civilian mind dreads most are mutilation and death. Out here we rarely think of them; the thing which wears on one most and calls out his gravest courage is the endless sequence of physical discomfort. Not to be able to wash, not to be able to sleep, to have to be wet and cold for long periods at a stretch, to find mud on your person, in your food, to have to stand in mud, see mud, sleep in mud, and to continue to smile—that's what tests courage. Our chaps are splendid. They're not the harebrained idiots that war correspondents depict them from day to day. They're perfectly sane people who know to a fraction what they're up against, but who carry on with a grim good nature, and a determination to win with a smile. I never before appreciated as I do to-day, the latent capacity for big-hearted endurance that is in the heart of every man.

"Here are,, apparently quite ordinary men — men who washed, liked theatres, loved kiddies and sweethearts, had a zest for life—they're bankrupt of all pleasures except the supreme pleasure of knowing that they're doing the ordinary and finest thing of which they're capable. There are millions to whom the mere consciousness of doing their duty has brought an heretofore unexperienced peace of mind. For myself I was never happier than I am at present; there's a novel zip added to life by the daily rush and the knowledge that at last *you're doing something into which no spirit of selfishness enters.* One can die only once; the chief concern that matters is *how* and not *when* you die. I don't pity the weary men who have attained eternal leisure in the corruption of our shell-furrowed battles; they "went west" in their supreme moment. With the brutal roar of the first Prussian gun the cry came to the civilized world, "Follow thou me" just as truly as it did in Palestine. Men went to their Calvary singing "Tipperary"—rubbish, rhymed doggerel, but their spirit was equal to that of any Christian martyr in a Roman amphitheatre. Greater love hath no man than this, that he lay down his life for his friend. Our men are doing that consciously, willingly, almost without bitterness toward their enemies; for the rest it doesn't matter whether they sing hymns or rag-time.

"The game doesn't pall as it goes on; it fascinates. We've got to win so that men may never again be tortured by the ingenious inquisition of modern warfare. The winning of the war becomes a personal affair to the chaps who are fight-

Continued on page 42.

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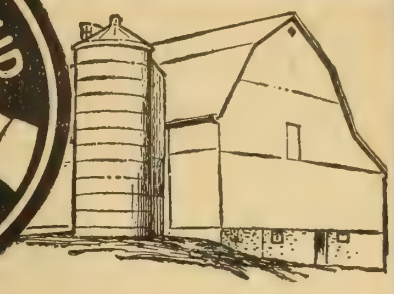
100% PURE PAINT & VARNISHES



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Write for copies of "Farmer's Color Set" and "Town and Country Homes". Many good painting hints in each. 110

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Let us show you the way to increase your income to any extent you desire. If your present salary isn't quite sufficient to take care of "extra needs," our plan will provide the money for them. It will also furnish the funds for coming vacation expenses.

Now is just the time to start—the days are long—and are getting longer. Turn your evenings and spare time into cash by becoming our district representative.

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Negligee Shirts have a Distinctive Style

Made of fine pure wool Zephyr and Wool Taffeta, in exclusive dainty patterns, Jaeger Shirts have all the "appearance" which superior material and skilled workmanship give to Jaeger Goods. Far superior to cotton or linen, not only for exercise and outdoor sports, but also for year 'round wear in office, or when traveling.

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Made in all sizes, with single or double cuffs, shirt or coat style. A fully illustrated catalogue will be sent on application to

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British "founded 1883".

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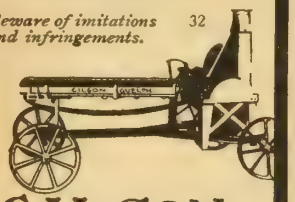
WITH YOUR OWN ENGINE

—and a wonderful, light running Gilson Blower Cutter. Your 4 or 6 h.p. engine and our small cutter will make an ideal individual outfit.

Write to-day for free catalog and letters from users.

Beware of imitations and infringements. 32



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J. H. CONNOR & SON, Limited
Established in 1881 OTTAWA, ONT.

The Market Garden.

An Acre of Celery and a Little More

Samuel Beech has a dwelling, a stable and a 100-foot greenhouse on a parcel of land six acres in extent. It is not much, but for a truck garden plenty, and when it happens to be adjacent to a town where water for his Skinner system can be had, his cup of happiness is filled to the brim.

Samuel did not always live near the town of Burlington, an unkind fate set his feet and bent his back over a more distant part where a stretch of good land but no markets without shipping by rail existed. One day he and his wife, for he had a wife, went to visit her relations and while there he decided to make the change which brought him to his present abode.

His land is a good sandy loam with perhaps a little clay mixed here and there, plenty of water and a large city only nine miles distant, where he sells all his stuff, and the only fly in the ointment is a higher taxation, which is more than offset by the good market and good roads. With this small acreage he has found that specializing in certain things brings the best results, lettuce, tomatoes, celery and peppers are grown. The seeds are started in the greenhouse or in lieu of that hot beds and transplanted once before being placed out in the open. Over an acre is put out in celery and with cultivating necessary spraying and sufficient water the earliest varieties are ready in August.

Spraying is a preventative against blight which attacks the plant in any kind of season, wet or dry, hot or cold. It is the key to a successful crop and he does not consider a crop a success if not sprayed. When he cultivates then is the time he is on the lookout for the signs of it. The spray mixture is: 4 lbs. Copperus, 4 lbs. Lime, 40 gals. water.

The expense of this is not high, though it has soared some since the war began, as the price of copperus has increased over five times. With planting, transplanting, watering, spraying, cultivating and bleaching the earliest varieties are at last ready to harvest, 40,000 heads of it from start to finish, and the prices he gets range from 40 to 60 cents per dozen, according to size of head for earliest stuff to 90c. and $1 for the largest size of the late varieties.—Jennie B. Dixon.

Planting out greenhouse strawberries after fruiting in the greenhouse. They will fruit again outdoors.

War Time Food Crops

June will be the last month in which we can get down to real forward looking planting. Beans can be planted on well prepared ground up to the 10th. And there will be a big demand for them next fall.

Root crops, particularly turnips will be sown from the 15th to 25th of the month and these promise to be a paying crop also. Sugar beets, parsnips and carrots ought to be increased also.

Sweet corn can be planted all the month. The surplus can be dried or canned. All foods will be needed.—F.C.M.

Cabbage Culture

Ten to twenty tons of good, sound cabbage to the acre at $8 to $10 per ton is good money. This is the return in investment in cabbage land obtained by many cabbage growers. How do they do it?

Looking at it from this distance the methods remind me of how a good friend of mine built up one of the most famed dairy herds in this country.

Some years ago this dairyman woke up to the fact that his stalls were filled with nondescript cows of no particular breed. They weren't giving much milk—calves were worth but little, and that usually for veal—profits were low.

What did he do?

He decided on a suitable dairy breed. One whose reputation stood high as a milk producer.

That is what successful cabbage growers are doing with their cabbage "herds." You can't grow heavy-yielding crops of cabbage from poor nondescript

seed any more than you can make prize-winners out of poor mongrel bred cows.

Pennsylvania State Agricultural Experiment Station has grown in long-continued careful tests a difference of 8.22 tons per acre in strains of Prem. Flat Dutch Cabbage. One strain yielded 24.47 tons per acre, while the other produced only 16.25 tons.

The big profits in early cabbage come from big early yields. In testing out different strains of early spring cabbage Pennsylvania State Experiment Station found a difference in first cutting of 8.83 tons per acre between different strains of this variety. One strain yielded 15.43 tons to the acre at first cutting while its sister strain yielded only 6.60 tons per acre. Poor, uncared for cabbage seed contains a mixture of bad and good seed. Some way or other the bad, poor yielding seed usually seems to form a big part of the package if careful selection is not practised.

This is the story of the mongrel *vs.* purebred cabbage "herds." You can't get blood out of a turnip. You can't get good cabbage from poor seed.

With cabbage at $10 a ton, Maryland Agricultural College reports the doubling of yields and increase in net profits of from $29.12 to $139.07 per acre by adding 750 pounds of fertilizer per acre.

For early marketing when 8 to 10 tons of manure are spread on the cabbage field add 500 to 1,500 pounds per acre of fertilizer containing 4 to 6 per cent. ammonia, 10 to 12 per cent. phosphoric acid and as much potash as you can find profitable to use under present conditions.

If no manure is used considerably more suitable high grade fertilizer will pay. Fertilizers for soils which tend toward muck type, reduce the ammonia and increase the phosphoric acid and potash if possible.

For cabbage on sandy soils increase the ammonia in the fertilizers.

Remember that fertilizer is available plantfood that gives early growth to your cabbage crop just like good milk makes lusty calves.

We cannot go into a full discussion of cabbage diseases at this time, but wish to point out a few general remedial measures cabbage growers may take to protect their crops.

1. Do not follow cabbage with cabbage. The seeds of disease will linger in the soil and infect immediately succeeding cabbage crops.
2. Use plants from clean and uninfected seedbeds.
3. Obtain disease-resisting strains of cabbage seed when possible.
4. Avoid using infected manure.
5. Use liberal applications of available fertilizers to insure strong, vigorous growth.

Late Cabbages

The seed for late cabbages should be sown in a carefully prepared seed-bed in the open ground four or five weeks before time for setting the plants in the field. As transplanting in Ontario takes place about July 1st the cabbages would have to be in the ground about the middle of May, when large areas are to be planted, several sowings of seed may be made in order to distribute the transplanting over a longer period. The later plantings are made of varieties capable of developing in a shorter time than the earlier plantings.

Relaxing the Tension with a good Gillette Shave

A day a-wing over enemy lines—scouting, observing, fighting, dodging shells and machine-gun bullets—is a nervous strain that has no precedent and probably no equal. When our airmen alight at last, after flights an eagle might envy, they certainly do enjoy the refreshing relaxation of a cool, smooth Gillette shave.

Nor is this appreciation of the Gillette Safety Razor limited to our airmen, or even to our own British armies. Every service has its own tense moments, hours or days, with its welcome intervals of relaxation when the Gillette is a friend indeed. Keen, compact, always ready for action, the Gillette Safety Razor is treasured in tens of thousands of kits on every fighting line on land and sea—and by no means least in the land of its birth, with the forces of our newest Ally.

Nor does its service end here, for "the man behind the man behind the gun", who in the factory, the office or on the land is bending every energy towards production—he too gets solid comfort and satisfaction out of the Gillette Safety Razor and its wonderful three minute shave.

Spend a five dollar bill to get a Gillette for one of your defenders—and get one for yourself to see how much he'll appreciate it!

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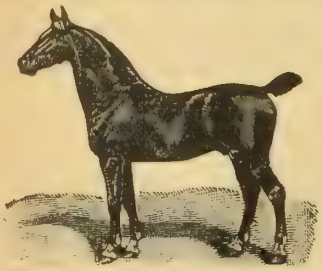

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VIEWPOINTS

Looking at it that Way—well, maybe there's something in it.

Cattle Embargo

A. T. GAYFORD of Toronto, opens up the old question of the cattle embargo in Great Britain. He writes:

From a letter which was submitted to a meeting of the diseases of animals committee of the Norfork, England, County Council, we gather that a movement is again on foot, in other parts of the country, for approaching the government with a view to the admission of Canadian store cattle.

This is a matter which has been greatly discussed for years past. This Norfork committee does not propose to take any part in the suggested movement, not because of any views it may hold for or against this matter, but on the ground that this is a most inopportune time for raising the question.

Sir Ailwyn Fellows spoke the mind of the committee on this point when he said that we were in the midst of a great war, when it was difficult to get a sufficiency of ships to bring different things overseas; and it was not likely that the government would listen to a deputation asking them to use the ships we have to bring Canadian stores to this country.

The promoters of the movement would probably reply to that by pointing out that the question of the supply of meat, and its price, is very much a timely question, and is likely to become even more urgent, during war time; and that the admission of Canadian stores has a very direct bearing both upon the state of our supplies and upon its prices.

The whole thing has so far turned upon the conflict of interests, rather than upon considerations of national benefit.

Graziers want Canadian cattle to be admitted, breeders do not. Further, the Irish interest in the matter is very strong. As was pointed out, when these Canadian stores were first prohibited the increase on the price of the Irish stores was computed to be equal to the whole rent of arable farms in Norfolk.

The Irish do not want to see other supplies bringing down prices. The Irish strength in parliament is great enough to weigh heavily with governments. From first to last, the whole consideration of what is really the National interest in this matter has been only the very slightest factor in the matter. Obviously it should be the only factor, the one thing to be regarded. A letter from the committee of Newcastle on Tyne sets forth that in connection with the general shortage of fat and store cattle throughout the country, and the high price of meat, the Sanitary committee had under consideration, both as an emergency and as a post war question the desirability of amendments of the law which prohibited Canadian store cattle from entering the country. From information the council feel satisfied that Canada, in addition to being a country capable of producing the class of store cattle required for feeding in this country, is the only country in the world which has enjoyed during the past forty-five years complete immunity from all diseases of cattle.

Furthermore, foot and mouth disease has not been in Canada since 1870. No risk to cattle could arise from the removal of these restrictions.

The effect of the policy of restriction, which has now extended over a period of twenty-two years, has thus been to withhold from Canadian farmers any inducement to raise cattle otherwise than for home consumption, or possibly for the United States markets. The results of this were already making themselves apparent in England before the outbreak of war, by a general shortage of meat. Surely there is urgent need for this question to be taken up by every farmer both in England and in Canada, as it seems to be a leading and important question, and one which will benefit both countries and thus be a national benefit.

The Irish members of parliament are helping to make this question more difficult; they are strong in numbers, and they are not going to sacrifice the enhanced value of their store cattle by agreeing to let Canadian stores come in England.

However much the Irish are inclined to disagree among themselves on other things they generally manage to agree when it is a question of money, and more especially when it is one which would affect their own personal pockets.

Demonstration Farms

G. F. MARSH, writing on the subject of dollars and cents commonsense in our agricultural education, says.

There is a great lack of anything definite with regard to farming as a business, and this in spite of the thousands of dollars that are spent every year supposedly for the good of the poor farmer, but really in order to reduce the cost to the consumer. It is doubtful whether all this money has made the farmer's life one whit easier as is shown by the fact that the farmer, the farmer's son and the farmer's hirded man continue to wend their way city-ward when, if we were to follow our teachers and work hard for a few years, we could all be independently rich.

The farmer is told to do this and to do that and figures on demonstrations, plots of potatoes, fruit, cabbage, etc., showing enormous profits are shown and the farmer is held up to ridicule because he neglects such a sure means of amassing a fortune. But none of his teachers know whether it is practical on his farm, or how much the farmer who conducted the demonstration lost by taking his men and team away from some other important department of his farm at a critical time to give the required attention to the demonstration. While he made on the demonstration he might have lost on the

farm on this account. Like the Irishman and his demonstration with the pig. He made on the pig, but he lost on the corn. None of our so-called agricultural experts can tell us which of these profitable crops will work in with or "jib" with a certain system of farming.

The farmer can get an answer to a poultry inquiry or a sheep, dairy, soil, swine inquiry, but when it comes to the hard question which the farmer is up against every day, how shall he corelate all departments so that he will make money on the farm, he is left without any help, but has to work out his own salvation alone.

Now I ask what is the use to the farmer of all the money spent on agriculture if it does not help him to make more money himself as well as produce a larger quantity at a lower cost to the consumer.

The farmer dearly loves to be shown and while specialists have done much for the world and are all right in their place, that place is in the laboratory or demonstration plot and not giving advice to the farmer. What the farmer wants is demonstration farms which can be seen. The old idea of model farm put on a dollar and cents basis rather than for show.

So far as I am aware there are no official figures available in Canada and it is time that we had some. How should they be obtained? In the first place I would have every one who gets on the public platform to instruct farmers and at the same time owns land distribute a balance sheet of the same for the past five years. While I realize the fact that many men who could not manage a farm profitably are good research men and good teachers still, as a farm that does not pay is a loss in any case, it would be no injury to force them to decide whether they would give up the farm or the lecture work, in any case they should not be burdened with an unprofitable farm which so many are at the present time and has had more to do with the farmers distrust of scientific farming than anything else as they looked for the theories to be carried out in practice and were disappointed.

Then in addition I would have a number of demonstration farms in each county, which would be required to show up accounts which would pass an accountant. This would require but very little expense, as for a small amount to pay for extra labor I think that for the sake of the celebrity that many young farms would be glad to make public their accounts. If this were found to be impractical, the government could either rent or buy land.

My contention is that if with all the advantages at hand of all the research work of the Department if they cannot manage a farm and show interest on investment and a reasonable salary it is of no use to go out to teach the farmer, but all the energy of the Department should be centered on learning the reason why. If they can show a profit it would be the most valuable object that can be held up to the farmer. Unfortunately demonstration farms conducted by railways and real estate concerns are usually given up in a few years as the initial expense has been so great that it has been found impossible to show profits.

Some say that the county representative should manage a farm, but this is doubtful. If he is a big enough man he should, but very few men can give all

Continued on page 44.

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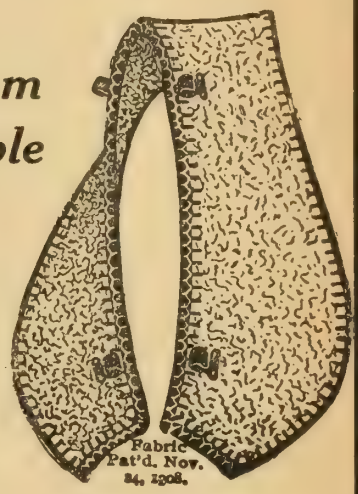

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are promptly relieved with inexpensive home treatment. It absolutely removes the pain, swelling, tiredness and disease. Full particulars on receipt of stamp.
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June on the Farm

In all probability the world will not produce enough food in 1917 to meet the deficits of the warring peoples. And when we think of the 40,000,000 of men who have been taken out of productive employment and have become not only ordinary consumers, but war-time's excessive users-up of food products, wherein there is much uncontrollable waste, there is no wonder about the situation at all. The remaining population has to redouble its efforts.

There can be no other outcome but scarcity, high prices and privation during the coming winter, war or no war. It may be $4 wheat and 20-cent pork or worse.

No matter what justification we had for a lessened production heretofore, it behooves every farmer to use every resource at his command to contribute in the best way towards increased returns. The governments are making it as easy as possible for the farmer to get seed supplies, sufficient labor, and if they could go further and remove some tariff barriers on tractors and labor-saving machinery, or could refund to the farmer this duty on his raw materials, when he is producing for the Empire, the good work would be increased. Agriculture is coming into its own Very few people fail to see that agriculture is the basis of a nation's strength and that all the other industries are abstractive ones. As farmers, we must push our business, accept every source of labor and financial assistance that leaves us still independent, and demand economic justice.—Grasmere.

General Reminders.

Sow Swede turnips up to the 20th instant.

Buckwheat is better to be sown between the 20th and end of the month.

The tractor is coming in fast. The place of power on our farms is settled.

June is the extra-push month. Late crops and constant cultivation may save a poor situation.

Spray, if you can, the fruit trees for scale during the second week of the month.

Lime sown on the meadows, particularly the clover meadows early in the month will pay.

Harrow the corn land early and often. Potatoes may be harrowed until they are three inches up.

The labor question of harvest will likely be settled well if all parties are desirous to do their best.

Millet should be sown early in the month. Hungarian grass can be sown later on damper ground.

It is a good month to go over the fall wheat fields and the newly seeded fields for weeds and new plants.

Be good to the young lad who is with you. Consideration for others leads to a like consideration for yourself.

Potatoes planted this month for the late crop often do well. Late sown potatoes make best crop for your next year's seed.

Among the Poultry.

Fresh water is essential for health.

Ducklings like plenty of green stuff.

Feed cut onion tops to the young turkeys.

Never leave a sick fowl with the rest of the flock.

For the scaly leg use zenoleum. Then rub the leg with sweet oil or lard.

Spray the henhouse every ten days with a strong solution of zenoleum.

Coal oil is too dear and it is dangerous.

For the broody hens, make a slatted coop, to hang up in the pen. It is the best way to break them.

A subscriber wants a guinea hen. Who can sell one?

Take the cock birds away from the flocks as soon as the breeding season is over.

Water glass seems to be the best preservative for eggs.

In the Flower Garden.

Prune the flowering shrubs, such as lilacs, spireas, forsythias and Weigelias as soon as they cease blooming.

Asters are our best late flowers. Plant generously. Use hardwood ashes on the bed.

Spray the roses as soon as the buds appear.

40% nicotine sulphate, a liquid procurable in most seed stores, diluted with about 1,000 parts of water in which a

little fish-oil soap has been dissolved is an efficient aphid or green lice remedy.

Hand pick the rose bushes for leaf cutting insects and destroy them by dropping them in water with a kerosene surface.

Roses are not very satisfactory for hedges.

Cut-flower roses need clean cultivation, severe pruning and special care.

Make geranium beds now. Mass bloom is striking if your garden will permit.

Plant dahlias early in the month and stake them at the time they are planted. Pansies for late bloom in prairie gardens.

Send to your provincial agricultural college for a bulletin on gardens. Manitoba puts out a good one.

What about arranging for a bed of phlox?

The Wool Situation.

All sheep should be sheared early in the month.

Did you ever use a sheep-shearing machine?

Follow the instructions from your college as to protection of wool.

It looks like a big price for wool.

R. W. Wade, of Ontario, says that the farmers can have the whip handle if they will all market their wool through one channel and grade it.

The U.S. has not half enough sheep to supply their national needs.

Sow a patch of rape for the use of the sheep and lambs later on.

What Manitoba advises about sheep in a few words.

1—Keep the right kinds of sheep.
2—Keep the wool clean, both before and after shearing.
3—Dock the tails from all lambs. This will save loss from "tags."
4—Don't wash the wool.
5—Don't shear wet sheep
6—Never roll "tags" into a fleece with good wool.
7—Never use binder twine to tie fleeces.
8—Be certain to tie fleeces properly.
9—Use proper sacks. The right kind is cheapest in the end.
10—Don't send anonymous shipments. Be certain to have properly filled in shipping tags both inside and outside every sack.
11—Ship by freight, prepaid.
12—Ship during June—preferably before June 20th.

In the Orchards

The glory of the landscape is a blossoming orchard.

Spray with summer strength lime-sulphur just as the blossoms fall.

Spray again about the end of the month.

If leaves begin to curl look for plant lice. Spray with nicotine solution.

Remove all watersprouts as soon as possible.

Spray cherries after the fruit forms. The pin hole fungus on the leaves can be prevented by spraying.

After the strawberry bed ceases bearing, begin cultivation and trimming off the rows.

In cherry picking, use ladders, and do not allow climbing in the branches.

Watch for black knot on cherries. Cut off and burn all knots.

Black canker on apples is prevalent in some sections. It is hard to handle, but must be done or the trees are gone. Spray with lime sulphur thoroughly.

Take care of the apples. They will be needed for food in one form or another.

Cultivate the orchard all the month if you possibly can. Beware of bruises to limbs from whiffletrees and hames.

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To succeed with your preserves, buy good fruit—it must not be over-ripe.

Buy good sugar—St. Lawrence Red Diamond Granulated.

Sterilize your jars thoroughly.

These precautions prevent the usual causes of failure.

WE SUGGEST

that the 100-lb. bag of St. Lawrence Red Diamond Extra Granulated, is the best for the Farmers' Home.

It ensures full weight of the best sugar and avoids frequent trips to the store.

Your dealer can supply Red Diamond in Coarse Grain, Medium or Fine, as you may prefer.

Good Fruit deserves Good Sugar—get the

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Extremely Severe

Dyspepsia

Halifax (N.S.) Sergeant in the C.E.F. Cured Completely by Dr. Cassell's Tablets.

SERGEANT DUNCAN MacNEIL, of the **CANADIAN EXPEDITIONARY FORCE,** writing from Europe (his home address is **116, PLEASANT STREET, HALIFAX, N.S.**) says:—

"For six years I suffered from frequent attacks of Dyspepsia, each attack being more acute than the last. During one of these attacks life would become almost unbearable, and I would have to regulate my diet to liquid foods only, often being in bed for days at a time. I was under the care of a Physician, and tried all the remedies on the market, spending a small fortune, but obtained little or no relief. I became utterly discouraged, and had almost given up all hope of Cure.

Sgt. MacNeil.

"When the war broke out I joined the Expeditionary Force and came to England. I had not been long there, however, when my old trouble returned, and I had to go to hospital. While in hospital a friend told me of Dr. Cassell's Tablets, and I decided to try them. The first box brought such pronounced relief that I continued the treatment. To make a long story short, a complete cure was effected.

"Since taking Dr. Cassell's Tablets I have been through hardships almost beyond human endurance, but not once has my old trouble returned to bother me."

The above is the frank, clear testimony of a Canadian soldier. He has been cured of extremely severe dyspepsia, which even the healthful life of the training ground could not overcome, and he wishes to tell others that he owes that cure to Dr. Cassell's Tablets.

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Specially valuable for nursing mothers and during the Critical Periods of life.

Sold by Druggists and Storekeepers throughout Canada. Prices: One tube, 50 cents; six tubes for the price of five. War tax, 2 cents per tube extra.

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In the Greenhouse

Chrysanthemum planting should be completed this month. Water freely.

Clear out the greenhouse as soon as the crops cease to prove profitable. Clean with lime and renew the earth.

Pinch a few shoots out of the carnation plants each week rather than allow 5 or 6 shoots to attain a large size at the same time.

With the Pigs

Fence off a run for the young pigs. A good moveable fence for use in a clover patch is ideal.

The bacon hog is likely to come to its own and prices will keep ahead of costs for a long time. The farmer is getting real consideration just now.

We predicted 20-cent pork last month. Watch it climb.

Pigs need lots or fresh water. Provide shade for them during the hot days.

Have you tried out one of the hog motors for self-feeding in this labor scarcity?

Tom Colwill. of Whitby, showed me stubs from his pay check-book where he had paid $84 and $82 for two fat sows.

Prof. Day, of Guelph, as the recognized hog authority in Canada has been asked to lead the bacon campaign. Selling hogs under 225 or 250 lbs. is a losing game just now.

In the Dairy Barns

You must feed if you want results in the pail.

Keep constant watch for flies, cuts, short pastures and ill-doing cows.

Cheese prices are practically guaranteed to the farm.

Who said that 25-cent butter would pay the producer? The prevailing price is none too high.

Be careful to clean the separator well as milk products and dirt cannot agree.

Running water and a milk house are joys to every dairy farmer.

What have you now to say about the milking machine? Is it worth while? Write this department as to your experience.

W. F. Stephens is persistent in his belief in the value of the Ayrshire cow. During the period from March 14 to April 4th, 21 Ayrshire cows and heifers qualified in the Record of Performance. The average butter fat test of the mature class was 4.28%.

F. L. Green, of Greenwood, Ont., says that with the prevailing high prices for dairy products, the farmer is not getting any big return on his invested capital.

Keep the calves on fresh pasture and have a shade for them at midday.

Scours in calves often come from dirty feed buckets.

Something Into Which No Trace of Selfishness Enters

Continued from page 34.

ing. The world which sits behind the lines, hugs extra specials of the daily papers and eats three square meals a day will never know what this other world has endured for its safety, for no man in this other world will have the safety in which to tell. But don't for a minute mistake me—we're grimly happy. Thank God my outlook is all altered. I don't want to live any longer — only to live well."

What Happened to an Old Farm

How a City Man and Woman Became Back-to-the-Landers.

By EDGAR L. VINCENT

VI.

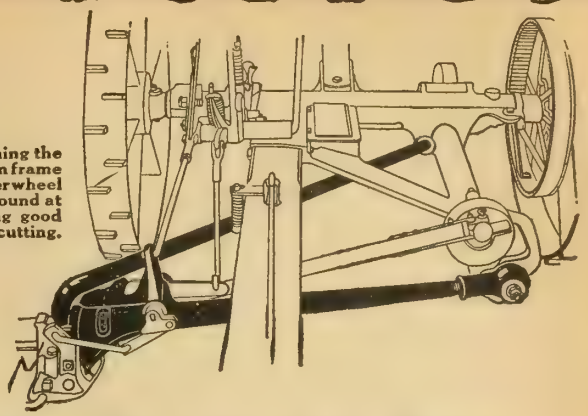
TUCKING IN THE ENDS.

IT MAY be some folks will think by this time that I have made this a pretty sunshiny story, as if nothing unpleasant ever happened to us. I have purposely kept the disagreeable things out of sight. What is the use of dragging all such things into the front all the time? We all have our ups and downs on the farm. Our folks had their share of them. The "old sow" did not exactly "eat up the grindstone," but the horses did go down through a high barn bridge one day with Laddie on the heavy hay rigging. He got out of it all right, though, and not a bone of man or beast was broken. This same Laddie had a runaway another time, but it came out just so lucky. Before we put in the cement stable floor, the joists rotted out and let us all down at milking time, men, cows and all; but still no one suffered a scratch. We lost some stock by accident and do not expect ever to see the time when some drawbacks will not come to us and our farm folks. But in the main we have been well and happy. The world has used us well and the farm is the best place we ever lived on or ever expect to live.

I spoke in one of these papers about a little bedroom we fitted up for a library. Out of an old cherry tree we got some fine lumber and I made a bookcase that covered one side of the room. When I was a boy we had very few books or papers, and I was about starved all the time for something to read. That appetite never left me, and I have been gathering books ever since, so that I have a better library than any one I know of on the farm. This has been a source of attraction to the young folks, and many of the older ones of the neighborhood. The boys and girls came to the good wife for help in their studies, algebra, Latin and German, and this has kept her mind bright, while for some reason or other the citizens of the township seemed to think me worthy of five terms in the local county legislature, and the wider constituency of the county seconded the motion by sending me two years to the state legislature. These and other things which have come to me in a public way have tended to make life pretty busy at Clover Leaf Farm, but with my disposition I would not have been quite as happy if this were not so.

Somehow "Clover Leaf Farm" has come to be the Mecca for everybody who has needed a bit of advice. Many a time I have unhitched my team from the plow or some other farm implement and gone done to the house to counsel with a farmer man or his wife about some point that was worrying them. I have written their wills, drawn up their deeds and mortgages and made out farm leases by the bushel. I have seen my own boys grow up to manhood and the neighbors' children come to be old enough to take their places in the work of the world.

One man going into a neighborhood and quietly, earnestly and persistently putting the very best there is in him into



The manner of joining the drag-bar to the main frame insures that the inner wheel will stay on the ground at all times, providing good traction in tough cutting.

Deering—The Light Draft Mower

HAVE you ever noticed the extra long drag-bar of the **Deering** mower, its connection to the frame, and the way it supports the cutter bar? It is one of the exclusive and outstanding good features of the **Deering**, and an important reason why this mower has built up a reputation for light draft and great cutting power.

Through the use of the continuous dragbar, the cutter bar has a flexible movement and floats lightly over even and uneven ground. You can test this by taking hold of the end of the **Deering** cutter bar and noting how easily you can lift it.

The weight of the cutter bar being entirely on the wheels, the traction is increased and the wheels prevented from slipping or being lifted from the ground.

The **Deering** mower has many other good features. You should write for complete description, or better still, examine the mower. Made in the desirable sizes.

Deering rakes, tedders, International side delivery rakes, loaders, and hay presses are machines that save time and labor in the hay field. Write for complete information.

International Harvester Company of Canada, Limited

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WEST—Brandon, Man., Calgary, Alta., Edmonton, Alta., Estevan, Sask., Lethbridge, Alta., N. Battleford, Sask., Regina, Sask., Saskatoon, Sask., Winnipeg, Man., Yorkton, Sask.

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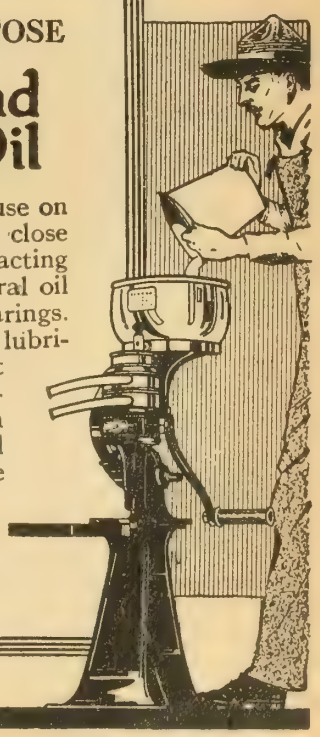
Standard Hand Separator Oil

is manufactured especially for use on hand separators, where the close fitting bearings require a quick-acting lubricant. It is a pure mineral oil which cannot gum or clog the bearings. It not only serves as a superior lubricating oil but prevents seam rust and corrosion on the exposed surfaces of the separator. Put up in pint, quart, half-gal., gal. and 4-gal. cans. Sold everywhere by reliable dealers.



THE IMPERIAL OIL COMPANY
Limited

BRANCH STATIONS THROUGHOUT CANADA

Until a little while ago she thought them unavoidable. If you have corns don't blame yourself too much. Many an old person has had them fifty years.

YET they have done what you do—pared them and used old-time, useless treatments.

But what folly it is when nowadays about half the world keeps free.

The chemist who invented Blue-jay made corns forever needless.

Last year some 17 million corns were ended in this simple, easy way.

Just try one corn.

Apply a Blue-jay plaster in a jiffy. Then forget it. It will never pain again.

In two days take the plaster off. The corn will disappear. Only one corn in ten needs another application.

You will laugh at the old ways when you try Blue-jay. You will wonder why people ever let corns hurt. Please start tonight. You have suffered long enough.

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Limited
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Blue-jay
Stops Pain—Ends Corns
Instantly Quickly

Sold by all Druggists

Also Blue-jay Bunion Plasters

You Want More Money

WE NEED YOUR SPARE TIME —LET'S GET TOGETHER

Let us show you the way to increase your income to any extent you desire. If your present salary isn't quite sufficient to take care of "extra summer needs," our plan will provide the money for them. It will also furnish the funds for vacation expenses. The best part of our money-making plan is, no time is needed, only what you can spare from your regular employment. It interferes in no way with business or pleasure, but fits in as a "money maker" into spare-time moments. Work it an hour now and then and the cash results will surprise you.

Now is just the time to start—the days are long—and are getting longer. Turn your evenings and spare time into cash by becoming our district representative.

Full particulars, without obligation, free on request.

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the business of making the best possible farm life can have a wonderfully helpful influence on the community. Let one man build a good house or set out a new orchard or grow a finer cow and it will not be long before other folks will be doing the same. As the Chief of the Bureau told me when I went out of Government service, a good farmer can become a part of the world, whereas he might live and die in office with no other record than that of having acted as a cog in the machine. I have thought of that many times and believe there is a great deal of truth in it.

Not the least pleasant thing about our farm experience has been that of helping a little bit about making the stock of the neighborhood better. You see how that works. If Sam beats me by getting milk from his cows that tests better and makes more butter than mine, it immediately sets something to going inside of me that makes me vow that I will get even with him if it takes a leg. And I stick to it until I have won out, for who likes to own up beaten in this great game of farming? So it goes all down the line—cows, hens, hogs, sheep, corn crop and all.

The man who sees his neighbor cutting grain with a binder is not apt to use a sickle very much longer. He cuts the corners and save his money until he can buy a binder, too.

Plow a good furrow and other folks will set their stakes and drive as straight as a gun barrel rather than have you see their crooked mark.

Paint your house and soon all the houses along the street will take on a new color.

One time we set out a purple clematis at the end of our home porch. Not another one had ever been seen like it in all that section. It was no time before a lady driving past stopped and asked what that flower was. Then she went and got one. Now many farmers have this beautiful thing flinging its lovely blossoms over their porches.

Now, I have told my story. If it has seemed overly optimistic or in any way boastful, I have not meant it to be so. If I could have kept the "I" out of sight more I would have done it; but you just think, "He hasn't done a single thing that I can't do," and then go to work to make it true and it will be all square between me and you. That is as true as anything could be. We might all do a good deal better than we do; and I am going to try to do it. What do you say? Won't you join in? We'll all take hold of hands and go along together!

Demonstration Farm

Continued from page 39.

their time to county work and at the same time manage a farm as it should be, if he can do so he is worth five times the salary the county representative receives at the present time. No, the best plan is to have the farms managed by men who devote all their time to them when the representatives can tell the farmer what is being done right in his own county, and that he can go there and inspect the farm and demand the figures.

The farmers say "show me," and it is only fair that with all the money spent on agriculture that we have demonstrations showing interest on investment and a reasonable salary for the manager on the whole farm as a unit, where all overhead charges are of necessity included.

Mr. Farmer: How Much Money is Lost to You in Hauling Expenses?

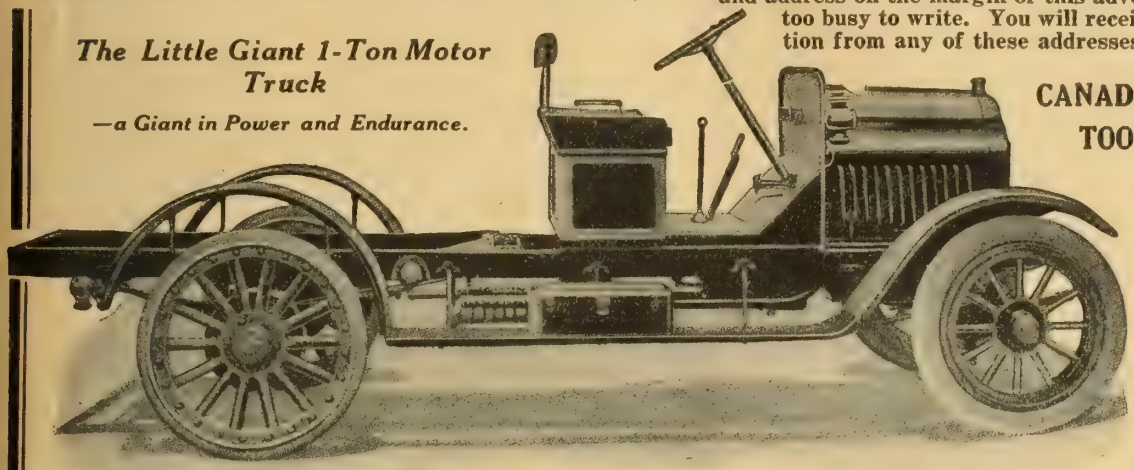
A "LITTLE GIANT" Motor Truck is not an expense; it saves its own cost in a very short time. A "LITTLE GIANT" is the best investment for the farmer of to-day.

A little investigation will soon show the advantage of the motor truck for the farm, particularly a "Little Giant" 1-ton Motor Truck, which is built especially for farm conditions. A "Little Giant" saves those lost profits for the farmer—hard-earned cash that is soon eaten up in hauling expenses. It is ready for a long haul in any weather. It will haul twice the load THREE TIMES the distance at the lowest cost. It will save your horses—save feed charges—save farm labor—save veterinary cost—SAVE its own cost in a very short time. It will become a profit-producing investment equal to any investment on the farm to-day.

It costs you nothing to investigate the great possibilities of the "Little Giant" for your farm. We know it means money saved to you—let us prove it. Just write your name and address on the margin of this advertisement if you are too busy to write. You will receive careful consideration from any of these addresses:

The Little Giant 1-Ton Motor Truck

—a Giant in Power and Endurance.



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Vice-Pres. & Manager

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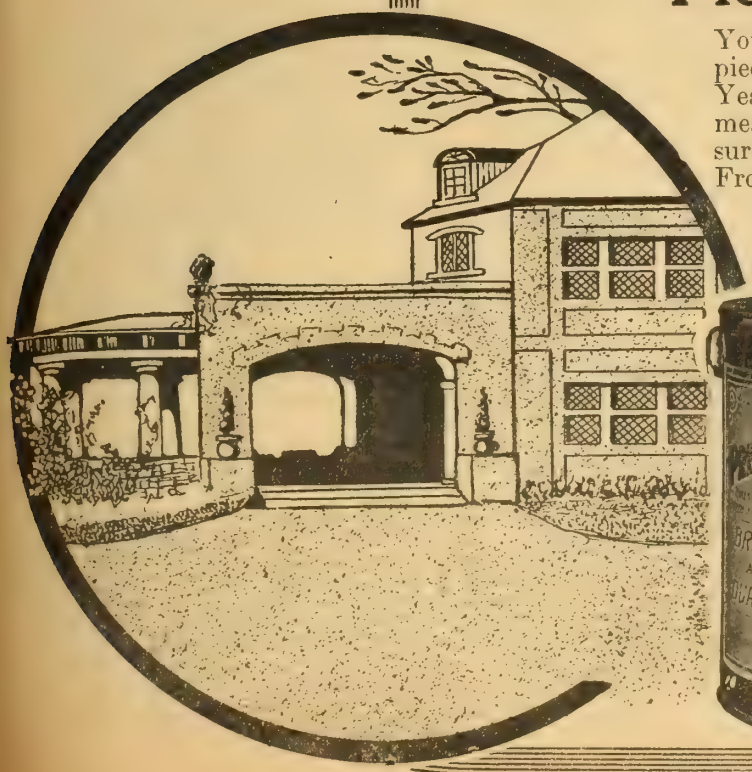
You have noticed how some buildings seem to go to pieces suddenly—What is the cause? Lack of paint. Year after year the paint question was put off — meanwhile the weather did its work—slowly but surely—silently but effectively. Heat—Dampness—Frost worked their destruction.

The lesson is obvious. Spend a few dollars on good paint now and save dollars and dollars in repairs, deterioration and depreciated value.



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give you the best paint value procurable — Dependable — Durable — they afford adequate protection against all weathers and wear for years without deteriorating.

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It costs you nothing to consult us as to the advantages of having a Greenhouse on the Farm. Write Dept. M., stating your requirements and we will gladly furnish you with costs, etc. All information FREE.

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Best of all Stave Silos

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Horticulture and Gardening

A Flower Lover's Creed

I believe in roses because they are the most perfect flowers that grow.

I believe in the crocus, the snowdrop, and the bluebell, because they are brave in ushering in the garden year.

I believe in the lily-of-the-valley because it is fragrant and hardy and loves the shade, likewise the sun.

I believe in cornflower—sometimes.

I believe in the iris, though I have none, for it is a wonderful work of God.

I believe in the homely goldenglow, because it blooms so profusely and you can depend upon it.

I believe in china asters, because I love their colors.

I believe in morning glories, because they aspire to heaven.

I believe in the lowly nasturtium, because it gives, and asks not, from June to November.

I believe in hollyhocks, because nothing looks so well against an old white house.

I believe in the hardy chrsyanthemums, because they defy continuous frost.

I believe in dahlias, because I can pick them with a clear conscience.

I believe in the lilac, the weigelia, and the syringa, because they love old dooryards.

I believe in flowers from the depth of my being, because they are things of beauty and are perfect, complete things. They are generous and innocent and I can help them to grow.—W. A. Dyer.

The Most Fragrant Wild Flower.

Readers of the *American Botanist* have been trying to decide which is the most fragrant American wild flower, and their opinions on the subject exhibit remarkable diversity. In New England the majority give first choice to the pink azalea, with the white water lily second. There are many votes for the trailing arbutus, but, as the editor suggests, its fragrance is doubtless overestimated, owing to the fact that it is the earliest fragrant wild flower of spring. Other candidates for first place are the partridge berry, the common locust, horned bladderwort (of which John Burroughs says: "In a warm, moist atmosphere the odor is almost too strong"), yellow jessamine, spotted wintergreen, and some of the magnolias. The same journal is collecting opinions as to which wild flower is the most beautiful.

Money from Potato Onions

On the 24th of May, 1916, I came to the conclusion that onions would be the thing to grow on a bit of waste land. I had been taking sods off this land to put on the road, so it did not need ploughing. Having a half a bushel of potato onions I put them 6 inches apart in the rows and the rows 2 feet apart. I then put some wood ashes between the rows for fertilizer. Ashes I found are as good as or better than manure.

These onions got an early rain and grew well until August, when I pulled them, putting them in the driving house. I left them there till the frost came, when I took them to the cellar at the house and measured them. I had eight bushels and a half. Mr. Thorne said they were the best crop that he had ever seen since he came to the farm 26 years ago. I kept them there all winter, when I sold six bushels of them to our grocer in Milbrook for $4.50 per bushel.

I made an experiment on green onions in the winter. I got several bread tins and got dirt and planted onions in them and put them in the windows of the cowhouse, it being warmer than the house. My first trip to town I took fifty bunches and sold them at 5 cents a bunch, netting me 2.50. The next trip I took one hundred and twenty-five down at the same price. —Albert E. Willson.

A Big Garden

R. J. Graham, of Belleville, Ont., is converting the W. P. Miles farm he recently purchased, into a huge garden for the raising of vegetables.

Garden Stuff

James Knox was a young man with an ambition, he was a country lad living with his parents who owned a few acres of good ground, so he decided not to flee to the city to win name and fame, but to stay on the land instead. Garden truck was their specialty and nearby markets offered a good outlet for it. Where successful garden stuff is grown, especially on a small acreage, hot beds are an essential, and the next step after that is the small greenhouse. With the greenhouse comes a much longer growing year, in fact a growing year every day of it.

Meanwhile the city had increased in population and the demand for early vegetables, especially lettuce, was large. James saw the trend of things and kept increasing the number of his greenhouses, then one day he decided that the better business proposition was to turn his garden all into a greenhouse affair, as by so doing he concentrated his efforts both of mind and body to one class of work and secured better prices for his out-of-season stuff. One large greenhouse, 75 by 200 feet, with its high roof, requires less firing and attention than a low-roofed one of similar dimensions. He believes in growing stuff right on the floor of the house, thus doing away with the tables which, if made of wood, become rotten. Lettuce and tomatoes are the chief products along with cucumbers, radishes and parsley in small lots, of all these vegetables lettuce is by far in greatest demand and fortunately it is easily grown. From the time the

seed is planted till it is cut for market is six weeks. The first crop is taken off about the first of November and planting, transplanting and cutting take place continually till June, when other early vegetables out-door grown put in an appearance. Lettuce has one small pest known as the green fly, if this gets into the heart of the plant it sucks out the goodness, the leaves curl up and stop growing. To kill this tobacco stems are burnt in small incinerators, which are hung up and left overnight in the closed greenhouse. Lettuce is cut either early in the morning or after 4 o'clock in the afternoon if cut during mid-day, the tendency to wilt is greater. It is taken into the shipping room and dumped into a large wash trough, from there it is packed in old orange boxes, which have been newspaper lined and it is then ready to deliver.

Tomatoes have proved a profitable vegetable, too, a succession of fruitage from April till the outdoor grown come in find a ready market. Carter's Sunrise, which are a small tomato, have proved satisfactory, this variety has been known to have as many as 20 tomatoes on a stem, of course, they are not all large, but when the consumer is buying tomatoes by the pound it looks better to get 3 or 4 small ones than one large for the money, to say nothing of the more attractive appearance when cut and placed on the table.—Jessie B. Dixon.

Keep the Cultivator Going

June is the month for weeds, and weeds work twenty-four hours of the day at reducing the farmer's profits. The cultivator or scuffler may do quite as much harm as the weeds if unwisely used. When the soil has been well-prepared the cultivator set deep simply means a waste of both man-power and horse-power. All that is needed is a lively surface stirring of the soil and the destruction of the late-maturing weeds before they rob the soil of any considerable amount of plant food or moisture. The temptation will be strong to work the cultivator close to the vegetable crop, but when this is done there is danger that the roots of the plants may be injured.

The hoe must not be allowed to rust. No implement yet invented takes the place of the hoe for moving the soil close to the plants. When a file is used and the man with the hoe really means business it is astonishing the benefit that results.—J.A.

The youth on the farm has rigged up a spray outfit for celery. The horse walks while the boy pumps, doing 3 rows at a time.

Paroid Roofs First Laid in 1898

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Same Roofs Still in Service

PAROID is so good that the name has come to stand for the best kind of roofing. Complimentary, but dangerous! It means that for you. own protection you must look for the name Paroid on every roll you buy. Then you are sure of the roofing that is approved by the National Board of Fire Underwriters.

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Once laid, a Paroid roof is weather-proof and fire-resisting for years to come. The saving on repair bills alone ensures the economy of Paroid, to say nothing of the absolute protection to your stock and crops.

3 permanent colors—Red, Grey, and Green.
For your home, use Neponset Twin Shingles.
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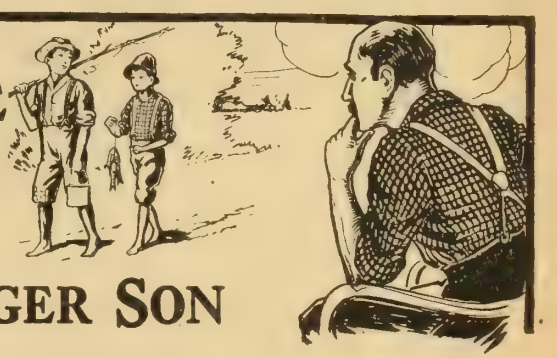

In the course of Nature your oldest son will inherit the farm—his future is assured.

GET A FREE HOMESTEAD

for the younger boy, and give him an equal chance in life.

Our "Homeseekers' and Settlers' Guide," to be had for the asking will tell you how and where.

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WE BUY GINSENG

both Wild and Cultivated, at highest prices. If you want reports on Fur or Ginseng, send for free quotations containing full particulars.

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GREAT CURIOSITY

It writes with plain water.

Price 10c, 3 for 25c postpaid. Silver-plated Holder 25c, 3 for 60c. Nibs 50c per doz.

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MAY MEAN DOLLARS TO YOU

IF an extra $5.00 or $10.00 a week interests you and you have two or three hours a day that you can spare, let us tell you how that much time can be turned into money. The more time you have the better the pay. We'll buy all you have and pay cash for it.

We need bright, active, hustling young men and women as district representatives. We will within the next month make hundreds of appointments—why not write at once and *secure* your district. If you are looking for an increase in wages, to take care of your many extra summer needs—our plan provides the money for them without interfering in the least with your regular duties.

Recently, here in Toronto, one young man earned $30 in one week. He devoted an average of four hours each day to looking after our subscription business. Would an income like this interest you? Write us to-day; we will gladly send you full particulars concerning the plan without obligating you in the least—simply say, "Show me how to turn my spare time into money."

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Sod Culture in Orchard

Grass competes with the apples by lowering the water supply, decreasing some elements of plant food, reducing the amount of organic matter in the soil, lowering the soil temperature in summer, diminishing the supply of air, affecting harmfully the beneficial soil bacteria, and by forming toxic compounds that affect the growth of the trees. Undoubtedly, under average orchard conditions, the tillage with cover crop methods of management will prove best.

The Apple in Canada

There were 10,408,457 bushels of apples produced in Canada in 1910, according to the census of 1911. Of this quantity, 6,250,672 bushels were produced in Ontario, 1,666,382 bushels in Nova Scotia, 1,481,239 in Quebec and 575,377 in British Columbia. New Brunswick produced 272,886 bushels and Prince Edward Island 160,124 bushels.

For Oyster Scale

James Simpson, of Victoria, B.C., writes to the FARMER'S MAGAZINE that he is opposed to much of the spraying of fruit trees as done by the majority of experts. In answer to a question as to how he would treat trees for scale, he says that he finds it very easily managed by applying one coat of whale oil or dogfish oil put on in the winter time. This acts as a solvent and kills the scale. Once every 3 or 4 years is sufficient.

The Legal Fruit Basket

The sizes of the eleven and six-quart baskets, the two most popular sizes used in Eastern Canada, are specifically defined in inches by the Inspection and Scale Act. The eleven-quart basket is required to be 5¾ inches deep perpendicularly, 18¾ inches in length and 8 inches in width at the top of the basket; the bottom shall measure 16¾ inches in length and 6⅞ inches in width. The six-quart basket is required to be 4½ inches deep perpendicularly, 15⅜ inches in length and 7 inches in width at the top of the basket; the bottom shall measure 13½ inches and 5⅞ inches in width. All measurements to be inside the veneer proper and not to include the top band.

Sod Culture in England

The Woodburn Experimental Fruit Farm, at Ridgemont, Eng., conducted an experiment extending over 13 years on the comparative results of sod and tillage for the apple orchard. Their conclusions were that the sod method was intensely harmful; that no ordinary form of ill treatment—including, even, the combination of bad planting, growth of weeds, and total neglect—is so harmful to trees, as growing grass around them. Their chief supposition as to the cause of the evil effects of grass on the apple is that a toxic substance, which is injurious to the apple, is excreted by the grass roots. It is a fact that grass often makes apple trees barren of fruit, and paralyzes their growth.

Hardy Plums

The Cheney is a particularly useful red plum for the prairies. It has been tried out at the Experimental Farm, Ottawa. Another hardy plum is the Omaha and is regarded as one of the best for climates similar to that of Ottawa. More than one variety of these plums should be planted together as they are more or less self-sterile.

An Apple Record for 1916

Mr. Kenneth Cameron, who lives in North Huron near Lucknow, has an archard to be proud of, and he is an orchardist worth knowing. The orchard is a thoroughbred, so to speak, for it yielded 1,342 barrels of apples off 365 trees in the face of adverse conditions in 1916.

It gets thoroughbred care. Five sprayings a year requiring 125 45-gal. barrels of spraying mixture constitute the first essential attention. About 60 days each year are spent in thinning and pruning. The branches are cut well back and the trees kept low so that the shape will be compact and convenient for picking. Where splitting from heavy burdens is liable to occur Mr. Cameron braces the opposite limbs with wire cables fastened by screw hooks. By this means the bark is not broken by an encircling contact of wire. In spite of the best care this year the trees were so heavily laden that the outer lower branches swung down to the ground and had to be temporarily propped up with poles.

Contrary to wide practice among orchardists Mr. Cameron's orchard-ground is allowed to stay in grass. He claims that what is thereby lost in size of fruit is made up in its color. The grass is mowed and let lie, thereby acting as a mulch in retaining moisture and as a clean cushion to receive windfalls.

The best apples in the yield were the Spy, Baldwin, and Ontario varieties. The orchard is composed of an old portion 60 years old, a group of trees about 23 years old and about 40 trees only 8 years old. From one of the old Spy trees no fewer than 18 barrels of hand-picked apples and two barrels of windfalls were secured one season some years ago. Another tree which has a record of 14 barrels in one season this year yielded nine barrels.

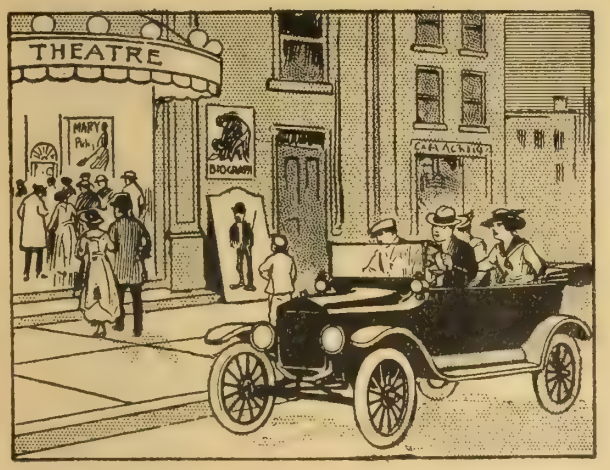
Keeping the Boys and Girls Contented

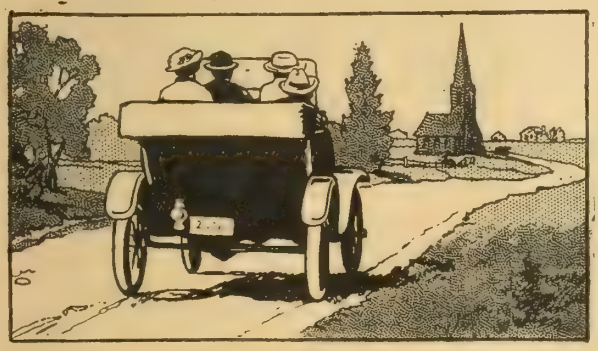
A Ford car will give your boys and girls so much additional pleasure and enjoyment that they will be more satisfied to remain on the farm. They may then enjoy all the pleasures of city life and still live at home.

For a trip to a distant house party, a quick run to the nearest town or city theatre, or a quiet ride to church—the Ford does it all.

Buy a Ford and note the new interest you take in life. You will find your Ford always ready for a spin on either business or pleasure.

If you have a "problem" in keeping your boys and girls at home, try to solve it the Ford way and you'll find life more worth living. Work on the farm will be easier, because you have more pleasure to go with it.





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FORD, ONTARIO

Government Issues Warning

Against Fly Poisons

Following is an extract from "The Transmission of Disease by Flies," Supplement No. 29 to U.S. Public Health Reports, April, 1916:

"Of other fly poisons mentioned, mention should be made, merely for a purpose of condemnation, of those composed of arsenic. Fatal cases of poisoning of children through the use of such compounds are far too frequent, and owing to the resemblance of arsenical poisoning to summer diarrhea and cholera infantum, it is believed that the cases reported do not, by any means, comprise the total. Arsenical fly-destroying devices must be rated as extremely dangerous, and should never be used, even if other measures are not at hand."

106 fly poisoning cases have been reported by the press within the last three years. As stated above this number is but a fraction of the real number. Protect your children by using the safe, efficient, non-poisonous fly catcher

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Made in Canada by

The O. & W. Thum Company

Walkerville, Ont.

American Address: Grand Rapids, Mich.

What Do You Do With Your Spare Time?

Would you be willing to sell it to us? We will buy it at a much better price than your present employment is netting you.

An hour or two in the evening at just the time when people are thinking of reading—but have nothing new at hand, will annex a handsome addition to your income.

Let us tell you about it—a postcard will do. Address—

The MacLean Publishing Co.
Limited
143-153 University Ave., Toronto, Ontario

This year's crop graded extremely high for the season—85% of No. 1.

In 1912 Mr. Cameron won the first prize of $75 offered by the Ontario Department of Agriculture in the orchard competition of District No. 5, which comprises the counties of Lambton, Huron, Bruce, Grey and and Simcoe.—J. A. McCracken.

Sweet Cherries.

Sweet cherries demand a deep, well-drained soil. A high, dry, gravelly knoll is suitable. They bloom very early—as early as April 23 near Niagara. If properly set the cherry can stand some frost later on. G. A. Robertson, of St. Catharines finds a good income from sweet cherries. Black Tartarion, Napoleon Biggareau, Elkhorn and Windsor varities are his leading money makers. Sweet cherries are slow to come into bearing and growers should insist upon stock grown in Mayard stock.

Home Canning

By Mrs. R. J. Deachman

JAMS AND BUTTERS

Preserving and canning to be successful must be timely. There is a certain little season when each product is at its best for preserving purposes, and canners will do well to watch these seasons and study carefully when materials are best and cheapest.

Fruits should be sound, fresh and not overripe. Fruits which are too ripe, or partly decayed, will not make good preserves.

Containers may be of any type whatever, provided they have no cracks or chips, and have perfect fitting tops. It is advisable to use every jar you possess, at present, which will make a perfect seal, but in purchasing new jars care should be taken to select a type of jar which may be easily cleaned, easily sealed and which has a sanitary glass top.

Rubber rings must be firm, pliable and fit snugly, and be thick enough to ensure perfect sealing. Many jars of fruit have been spoiled through defective rubbers. Do not economize on rubbers. Use new ones. One spoiled jar of preserves would cost more than a dozen new rubbers. Get the habit of burning the old rubbers as each jar is emptied. This will necessitate new rubbers each time the jars are used, and you will find fewer spoiled jars.

Before preparing the product to be canned, always put the clean empty jars in the wash boiler. Have a board full of holes, or a piece of heavy wire netting placed in the bottom of the boiler, to keep the jars from direct contact with the heat of the fire. Cover the jars with cold water, bring to a boil and then set the boiler at back of the stove. When jars are wanted lift out one at a time and do not wipe it. The glass tops, rubbers and dipping cup, may be sterilized in the same manner, by placing them in a wire basket and then into a saucepan of boiling water. When needed lift the wire basket out of water, take out one rubber and top, and replace basket in the water until needed again.

Fruit for jams and butters should be boiled in a porcelain-lined or granite-ware kettle if possible.

PLAIN FRUIT JAMS

Strawberries, raspberries, loganberries, gooseberries, blackberries, blueberries, and black currants require only hulling, stemming and picking over to prepare for jam making.

The larger fruits, such as apricots, peaches, plums, and prunes, should be halved and the stones removed. The seeds of apricots may be added to the jam if desired.

Weigh the fruit after it is prepared, and put an equal quantity of sugar in a large pan and set in the oven to warm.

Wash a little of the fruit in the preserving kettle and gradually add and mash, until all the fruit is in the kettle.

If the fruit is a dry one, add a little water. Heat gradually and boil for 20 minutes, stirring often to prevent scorching. Then add the heated sugar gradually and boil 15 minutes longer, stirring constantly. Skim carefully any impurities which rise to the surface. Pour into sterilized jars and seal.

RHUBARB CONSERVE

Use the cherry rhubarb, and do not peel it as the coloring given to the preserves by the red skin is beautiful and attractive.

Cut up 8 lbs. rhubarb and put on to boil in barely enough water to cover. Add 4 lemons which have been sliced very thin. Cook until soft and then add 8 lbs. sugar and 2 lbs. of the meats of pecans or walnuts. Cook until quite thick, being careful to keep from burning. This conserve will keep in jelly glasses covered with parowax.

STRAWBERRY AND RHUBARB JAM

3 lbs. rhubarb, diced; 9 lbs. strawberries, hulled, and washed, if necessary; 12 lbs. sugar. Boil the rhubarb with 3 lbs. sugar until soft. Mash the strawberries. Gradually heat and add the rest of the sugar. When boiling add to the rhubarb, and boil all together for 30 minutes, stirring and skimming until clear. Pour into sterilized jars and seal.

FIG AND RHUBARB JAM

5 lbs. of figs chopped fine, 5 lbs. of rhubarb cut up and 5 lbs. of sugar. Cook the rhubarb in a little water until soft. Then add the figs and sugar and cook gently until quite thick. Pour into glasses and seal.

This jam will recommend itself to mothers, as it is especially a children's jam.

RIPE TOMATO JAM

Quarter 8 lbs. of ripe tomatoes and add to them 4 lbs. sugar, 1 quart of vinegar and 1 tablespoonful each of whole cloves, allspice and stick cinnamon. Boil gently for 3 hours and seal in pint jars.

PEACH CONSERVE

4 lbs. ripe peaches, pared and cut in pieces; 1 grated pineapple, orange and lemon; one-half pound blanched and chopped almonds; one-half pound seedless raisins. Put in the preserving kettle and boil until soft. Measure and to each pint of fruit add 1 lb. of sugar. Continue cooking at simmering point until the whole mass is rich and smooth and thick. Stir frequently to prevent scorching. Seal while hot in sterilized jars.

PEAR CONSERVE

8 lbs. hard pears, peeled and cored; one-quarter pound of preserved ginger; 3 lemons. Put all through a good chopper. Add 8 lbs. of sugar and cook all together until soft and clear. Store in crocks, jars or glasses.

PLUM OR PEACH BUTTER

Peel and stone ripe plums or peaches. Put in the preserving kettle with a little water and boil until soft. To each quart of fruit add 1½ lbs. of sugar. Boil very slowly for 1 hour, stirring often. Store in glasses covered with parowax, or in jars.

MELANGE OF FRUIT

Equal quantities of gooseberries, cherries, black currants and strawberries boiled together with sugar equal to the fruit makes a fine jam.

Any other combination of fruits desired may be substituted for these four.

Raspberry and currant jam is much better than jam made from raspberries alone.

Another melange which is delicate and fragrant is made as follows.

24 ripe peaches, 15 blue plums, 2 lbs. white grapes and 10 well flavored pears.

Pare the peaches, plums and pears and seed the grapes. Add an equal quantity of sugar. If it is desired to keep the fruits whole add the sugar at the beginning of the cooking and cook until a thick syrup is formed.

Pineapple and strawberry is another pretty combination. Make a rich syrup of the sugar and a little water and cook the pineapple cubes or slices in it first as the pineapple takes longer to cook than the berries. Then add the strawberries and cook till soft but not broken. Pour into jars and seal hot.

The Home-made Septic Tank

OFTEN the chief reason why some people are inclined to prefer city life to farm life is summed up in the matter of the ordinary conveniences and little luxuries around the home. These so-called luxuries should not be confined to city folk, but are within easy reach of the ordinary farmer if he puts his mind to it. Indeed, most of the work can be done by the farmer himself in his spare time and at little cost. The farmer's delay in putting in sanitary water works has not been so much his indifference, as the lack of definite knowledge of how to go about installing a cheap and effective system. Nothing would so soon elevate the home ideals.

It is intended here to give as far as possible the exact details in such a simple way that anyone could go right ahead and install the outfit complete without the assistance of a plumber, although it is advisable to have expert advice regarding the placing of the tank, the number of laterals according to the quality of the soil, etc.

The problem of properly disposing of polluted water and other house waste is the most difficult question. The backyard not only becomes wet and untidy where the water is thrown out from the kitchen door, but it is very unhealthy. Again, the farm outhouse is not always a credit to the family and an effort should be made to have some better arrangements. Also the old-fashioned cesspool or pit is unsatisfactory on account of the danger of polluting the well or other drinking water supplies.

Septic tanks have been used in sewage disposal systems for years, and if carefully built will give entire satisfaction. The theory on which they work in destroying the injurious sewage is that the organic and solid matter is changed into harmless salts, then into a clear liquid by the action of bacteria. Two kinds of bacteria are made use of, the first, one working in ths dark septic tank, converts solids into a heavy liquid, and the second in the light and air, clarifies the liquid. Both kinds of bacteria are already present in sewage and require only proper surroundings to do the work. The following directions are for a septic tank for an average size family on the farm.

The tank is made in two compartments each three feet square and three feet deep. All the walls must be water-tight, and may be built of single brick reinforced on the outside with concrete and plastered on the inside with a coat of good cement, or simply a solid cement wall four inches thick and plastered on the inside. The cover or lid should be made so that part of it could be lifted off if necessary, and is made of concrete supported with angle steel bars. The top of the tank should be at such a depth that it can be covered with six inches of earth and sodded. It may be located near the house or several feet

This article is reproduced from an issue of the FARMER'S MAGAZINE *of* 1915 *and is written by the District Representative of Peel Co. and has been repeatedly called for by our readers.*—EDITOR.

TRAINS of tank cars bring crude petroleum to our refineries—deliver the refined product to the country town or the tank station nearest you. Every one of our 1,200 tank cars is a link in the distributing chain which brings the right lubricant for your machine from the oil well to your farm.

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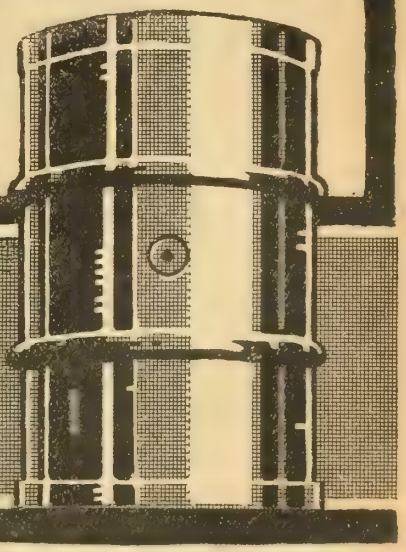
All our oils are supplied in steel barrels and steel half-barrels — convenient, economical. No waste. You use every drop you pay for.



The Imperial Oil Company Limited
BRANCHES THROUGHOUT CANADA

away. Glazed 4-inch sewer tile are necessary to carry the sewage from the house to the tank and should have a good fall. This inlet enters the first chamber about six inches from the top and turns down about nine inches so that this opening will always be in the liquid. A 3-inch bent pipe is placed seven inches from the top of the opposite wall to convey the liquid into the second compartment through the cement partition and it also extends down about nine inches into the first chamber as shown in diagram. (Later authority advises having this pipe extend nearly to the bottom of the tank, so that it carries off the clear culture. The opening would be protected by a screen to prevent the sediment at the bottom of the tank from clogging the pipe.) Thus the first tank will always be full, and soon a certain amount of sludge will collect in the bottom and a thick scum will form on the surface, both of which increase the bacterial action and cause the tank to work more effectively after it has been in use a short time.

This bacterial process in tank number 2 is slight, it being chiefly a storage and flush tank. It is provided with a 3-inch automatic siphon value which is so constructed that whenever the liquid reaches a certain height the valve trips and causes all the contents of this chamber to be emptied at one time. It fills up and is discharged again when full and the advantage of this arrangement will be mentioned later. The Miller siphon, as it is called, is sold by an American firm. The National Equipment Company of Toronto manufacture the Quinn septic tank valve which works satisfactorily and is recommended by the Provincial Board of Health. The manufacturers give full direction for placing the siphon or valve. Instead of using the automatic valve some merely have a simple flat valve which can be lifted by hand every day or so as a regular duty of the farm.

The outlet should be a main with closed points and leads from the tank into a shallow tile system which will be located some distance from the house. A system of laterals branch off on each side of the main drain, but must not be more than twelve inches deep. As mentioned previously, after the sewage leaves the tank, it is acted on by bacteria which require air, and there is little interchange of air below that depth. Strange to say these tile will not freeze, or become clogged, and one of the O.A.C. professors has had these tile in his front lawn for several years and says there has never been the least trouble with it. These laterals which may be in rows three to ten feet apart should not be laid on a sloping place, and the joints should be somewhat open. Broken stone, pieces of tile pipe, or gas coke placed under and over these open joints will prevent earth washing in and clogging the laterals. The reason for having the tank discharge intermittently instead of in a small trickling stream is that the liquid is spread through all the tile at once instead of making a soggy wet spot where the first laterals are placed. For a tank of this size 150 to 200 four-inch tile would be required; or, allow twenty feet per person in a light sandy soil, and as much as fifty feet per person in a heavy clay soil. If laterals are three-inch tile, use more in proportion.

Sometimes the question is asked whether it would be safe to run the sewage from the septic tanks into an ordinary field tile and then to an open ditch. The septic tank does not destroy the disease bacteria and there would be danger of infection if the sewage came in contact with the water supply of some other farm. No direct connection should exist between the distribution tile and the ditch. Under drains, distant three feet from, and eighteen to twenty inches below the distribution tile, may, however, discharge into such watercourse without danger.

Womens' Organizations

A NUMBER of Women's Institutes are helping the Prisoners of War Fund by sending either money or parcels to individuals. Some of the branches support a certain number; for instance, Carleton Place Institute supports eleven prisoners right along. Lanark sends $10 monthly.

One branch in North York has raised funds for two field kitchens.

Maynard Women's Institute has bought a knitting machine to help the hand knitters.

One Women's Institute in Eastern Ontario has provided a hut for gassed soldiers at Shorncliffe.

A member of Kincardine Institute converted the celebration of her silver wedding into a Benefit Tea for Red Cross purposes.

A feature of the work of the Institute District of North York is to maintain a cot called the "North York" Cot in the Queen Mary Hospital.

A story-hour for children, in charge of a committee of girls of the Institute, is held every Saturday afternoon in the Rest Room of the Public Library.

In addition to the regular Red Cross work, the Watford Institute contributes to the support of a cot in the Weston Sanitarium, and to the Traveller's Aid in Toronto.

Last year the Aylmer Institute had a series of demonstrations in canning vegetables, and canned practically all kinds of vegetables for winter use,—making an appreciable cut in the food bill of their homes.

Representatives from the Hillier Women's Institute made personal calls on the farmers of their neighborhood soliciting aid for the Belgians and secured a carload of potatoes, beans, grain and canned goods valued at nearly $300.

Besides regular Red Cross work, an Institute in Eastern Ontario, anxious to do personal work for their own boys at the front, formed a Knitting Circle to meet every Friday evening and knit from half-past seven to ten o'clock. After this they have a ten-cent tea, the money to buy yarn for more socks.

Besides doing regular patriotic work, the Maple Leaf Institute, near Sarnia, has bought a tennis court for the use of the neighborhood. They have taken up the work of improving the cemetery and what was once an eye-sore to the neighborhood is now one of the neatest country cemeteries to be found.

Bracebridge Women's Institute last year undertook the work of vacant lot culture. After getting permission from the owners of the lots, the Institute had them ploughed and harrowed, and let the Boy Scouts plant them with potatoes, the conditions being that the boys give one-third of the proceeds from their crop to the Red Cross.

TO A GOPHER.

(With apologies to Bobbie Burns' "To a Field Mouse.")

"Wee, sleekit, cowr'in'. tim'rous beastie!
Oh what a panic's in thy breastie!"
(We've ta'en this Scotch up ower hastie,
But never mind;
Some frien' may spare a drop at leastie
O' the other kind.)

Thou hast a sad, sair reputation,
An' farmers meetin' in convention
By divers powers o' legislation
Ha'e made ye "It."
There's danger in the situation—
Ye've got to quit!

Thou werena' always in sic fearie,
Nae booster then had hit the prairie;
An' blithe an' braw, thou roamed unwary
From morn to morn.
The sub-division quaint and queerie
Was yet unborn.

The years rolled by as thou, sleek-coated,
Retiring', shy, the changes noted—
"Th, historic westward march of" (quoted)
By railroad train;
Thou saw'st the funny things it toted
To thy domain.

'Twas they, intrudin', first brought trouble,
Their pretty farms, an' hubble-bubble
Of cows an'plows an' corn an' stubble
An' "av'r'ge yields
Per acre"—why, they're welcome double
Their doggone fields!

But were thy prior rights respected,
An' ancient tenure? Unexpected,
Opprobrious names they flung, disjected,
At thee, small wight;
These aliens thy small frame selected
To vent their spite.

No good points thine? Man soon discovers
Some parent thou—the best of mothers;
But quick eclipse may come to others,
Sir Sam Hughes, say;
The best laid schemes of men an' gophers
Gang aft a-gley.

They're plottin' more for thy wee ruin,
I'm sair afraid there's somethin' doin';
The poison'd grain around they're strewin',
Oh, eat it not!
Believe me, Go, there's trouble brewin',
An' brewin' hot!

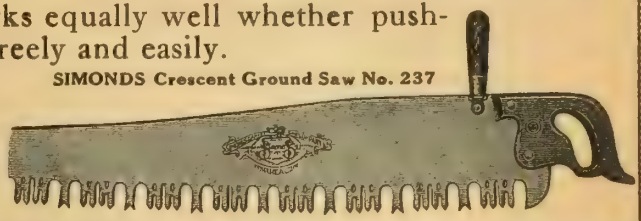
Thou'rt doomed, old timer, brown an'cutie,
Which tidin's isn't p'raps quite new t'ye;
So I, like Caesar's men, salute thee,
Thou art top-notch!
But I'd sooner be a Go. any old day,
Than rhyme in Scotch.

—CHARLES STOKES.

Does Not Bind in the Kerf

The user of a **"SIMONDS"** Crescent Ground Cross-Cut Saw is not troubled with his saw binding in the kerf, as the saw works equally well whether pushing or pulling, with the result that it cuts freely and easily.

SIMONDS Crescent Ground Saw No. 237



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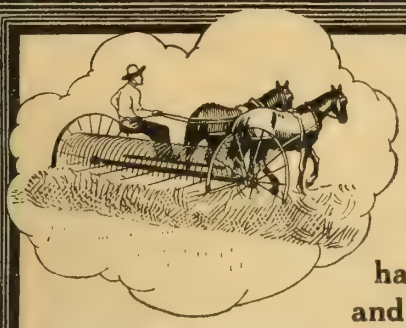
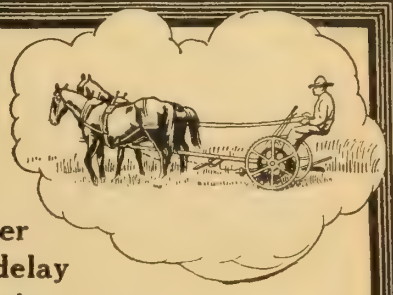


No Longer a Dream!



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FROST & WOOD MOWER and RAKE

You want to harvest your hay crop just when it's ready. You don't want to be stopped by inferior, balky machines. That's why we say let Frost & Wood's 80 years of successful, practical experience help you out. It costs nothing extra.

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Built on a strong, heavy, angle-steel frame. Parts are riveted, not bolted, so they cannot shake off. Teeth are special high-grade spring steel, every one carefully tempered and tested. The hardest work and roughest usage won't pull the F. & W. Rake out of shape. Fitted with automatic dumping service.

The Frost & Wood Mower

It's a delight to use it. Simple and easily managed, yet a marvel of efficiency and strength. Very light draft because of the high-grade steel roller bearings we use. Knives will work even with cutter-bar raised to clear obstructions, saving time and crop. Internal drive gear, superior cutter-bar adjustment and construction all show the hand of the master-mechanic and guarantee years of splendid service.

Write to-day for folder on F. & W. Mower and Rakes, Side Delivery Rakes, Hay Loaders, etc. You'll get some profitable pointers on hay making.

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Darling Brothers, Limited
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DEMING RAMS

Baby's Best Foster Mother

British Columbia is Admirably Situated for a Big Goat Industry

By S. H. HOPKINS

A Toggenburg doe 3 years old. She produces a gallon of milk per day.

ARTICLES on goats and goat-keeping appear but seldom in our farm journals. To some, these animals are nearly unknown; to others, they are taboo. The popular conception of a goat (other than the human animal sometimes given that name) is that of an odoriferous billy with pugnacious tendencies able to go anywhere and eat anything from old boots to tin cans and current literature. But we have much to learn about these useful animals. The ancients appreciated them, as Old Testament history shows. Abraham thrived on goats' flesh and milk. Goats' kids were the sacrificial offerings in Biblical times. Mahomet wrote, "There is no house possessing a goat, but a blessing abideth therein"—but perhaps Mahomet, being somewhat of a Turk, is not very popular at present. Virgil studied goat-breeding, and wise old Diogenes was the proud possessor of a goat—until somebody unfortunately stole it.

Asia cares little about the 30,000-pound cow. Asia is satisfied with goats. Goats have provided her people with meat, milk butter, cheese, hair and skins since Eve donned her first winter's goat-skin kirtle. India has now about thirty millions of these little animals. And in Europe, in the countries bordering on the Mediterranean goats largely take the place of the milch cow. Little Switzerland, about one-twenty-fourth the size of British Columbia, produces annually nearly 15 million dollars' worth of milch goat products, and provides improved stock for other countries adjacent.

In this article milch goats will be especially dealt with. Angora goats had their innings in a previous issue. This mohair-producing breed originated in the district of Angora, Asia Minor, and is now common in America and South Africa. A similar breed exists in the Vale of Cashmere, India. These breeds should not be confused with milch goats, of which there are some hundred different breeds and varieties scattered over the globe. Mohair goats are seldom used as milch goats.

THE MILCH GOAT.

In the mountainous Pacific States and Province of British Columbia, milch goats have gained a foothold. Goats delight in rugged surroundings. The milch goat is not to be thought of as a competitor of the dairy cow. On a holding mostly in bush, unsuitable for or too small for keeping a cow, on rough, rocky and brushy land and on vacant lots on the outskirts of towns—there the milch goat finds a place.

Only as a foster-mother for babies does the goat come into competition with the cow. Undoubtedly in this particular these little animals command attention. Many a delicate baby's life has been saved by the feeding of goats' milk when all else had failed. The reason is that although the goats' milk is twice as rich in fat as ordinary cows' milk, the fat globules are much smaller, approximating in size those of human milk. In Jersey and Guernsey milk the fat globules are especially large. The curd is more open in goats' milk. It is, therefore, much more digestible than cows' milk. Besides this, goats are almost entirely free from tuberculosis, the dread scourge of the dairy cow, a disease transmissible to man. For these reasons doctors are fond of prescribing goats' milk for infants and invalids. The Michael Reese Hospital, Chicago, one of the premier hospitals in the States specializing in children's diseases, keeps a herd of milch goats for the babies under treatment, as do many of the sanitaria in Western Europe. The milch goat keepers of California reap a rich reward for renting their milking nannies out to the parents of delicate infants in need of goats' milk. When the milk is sold by the quart for this purpose, twenty-five cents is the price usually obtained.

The popular impression that the milk has a peculiar odor and taste, is wrong. If obtained in a cleanly manner the milk is not distinguishable from cows' milk, except by the richer quality. At the writer's table people have been surprised upon being told that they had drunk goats' milk. Of course, both goats' and cows' milk can be easily tainted by uncleanly methods. Nanny goats carry no objectionable odor, but it is true that the billy-goat does at certain seasons. He should, however, be kept separate from the nannies.

MANY VARIETIES.

Two breeds of Swiss origin, Toggenburg and Saanen, are best known in America. The "Toggs" are drab-colored with white stripes down the cheeks, while the Saanen breed is pure white. Hornlessness is an indication of pure breeding. The Anglo-Nubian is now a recognized breed, formed by crossing Nubian bucks on English does. The Nubian has a striking appearance, being very large with lop ears and a Roman nose. Although they are the best milkers, goats of this breed are apt to be delicate. Nubians are short-haired,

A pair of good crossbred Saanen does owned in the State of Washington.

and it is claimed for them that the males are practically odorless. As much as six to eight quarts has been given in a day by goats of these breeds. The animal of obscure breeding commonly to be met with will not yield anything like this, although the owner may speak airily of "three quarts a day when fresh." With this class of goat from one to two quarts is all that can be expected. Many are not milch goats at all, but just goats, and unfortunately for the unsophisticated, these are the animals usually for sale.

An Italian near Fernie, B.C., had until recently a large flock of about 250. With the help of his wife and little boy he was milking about 60 head, averaging, so the writer was told, about three pints each daily. Half a ton of goats' cheese was manufactured each month during the summer, selling locally at 30 cents per pound, but worth in the larger coast cities up to 50 cents. The cheese is very rich and nutritious. Goats' milk, being rich in casein and fat, produces more cheese than the same amount of cows' milk. The butter is soft, and is quite white if no color is added. Goats will milk from 7 to 12 months or even longer, depending on the merit of the animal and the way it is fed. The flesh of young goats is esteemed a great delicacy by those who have tried it.

A good milch goat compares favorably with a record-holding cow, and in production is much more economical. A goat can handle a larger proportion of rough forage than a cow; in fact, nothing comes amiss to a hungry nanny. Leavings from the kitchen, garden and brush are alike

Purebred Nubia Buck bred in England by the Baroness Burdett-Coutts and sent to California.

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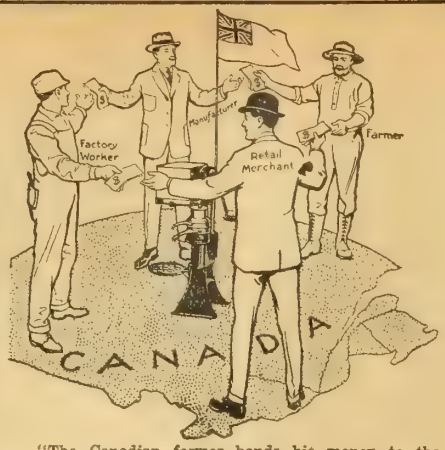

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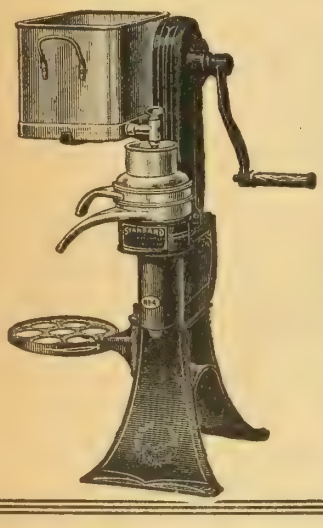

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acceptable. Of course, when in milk, some grain should be fed. Only one stipulation is made by her nanny-ship, and this is that all feed, water and feed pails shall be scrupulously clean. The goat is a most fastidious feeder. Perhaps that is why she is so healthy.

They require the same housing as cows, on a small scale, and can stand close confinement.

The natural mating season is from September to January, but under domestication this period has been extended. Two kids are usually produced at a birth.,

ANY GOOD FENCE WILL DO.

These animals are most affectionate, and become great pets. Contrary to popular belief, any good fence will turn goats. They will not jump any height unless they can reach it in a series of short jumps one vantage point to another. If the fences are not good, they can be tethered or else stall-fed.

Owing to the keen demand, prices of goats are high in the West. From $50 to $100 is often asked for good pure-bred individuals. Good grades sell from $15 to $25 each.

In the distant future it may well be that millions of these wonderful little animals will help to populate the vast rugged areas of this continent now unused—and otherwise unsalable. With a view to furthering this "infant" industry, British Columbia breeders are about to form a Canadian Goat Society and Record Association under the National Live Stock Record Office at Ottawa. The British Columbia Department of Agriculture has issued a bulletin on Angora and Milch Goats.

The Shrapnel Dodger.

At one of the military hospitals in Toronto recently, the Women's Institute ladies were entertained by a bunch of wounded soldiers putting on a program of much merit. The idea was suggested that these men could well duplicate this programme at country points in aid of the returned soldiers. Any Women's Institute could have them by making arrangements with the Women's Institute, Parliament Buildings, Toronto.

Ailsa Craig Institute

The younger girls of the Ailsa Craig Institute made over a thousand "News-from-Home" scrap books for the boys at the front last year. This is one of the several institutes that meet weekly to do such Red Cross sewing, cutting-out, etc., as cannot be done so well at home. It is interesting to know that the year's receipts of this institute amounted to $1,028.

Parkhill Institute

The Parkhill Institute carries on some excellent work by rather individual methods. The Institute has not charge of the Red Cross work as other Institutes have in many places. A co-operative committee has been formed on which the Women's Institute, the W.C.T.U., each Missionary Society of each Church, and practically every women's organization in the town is represented. Instead of raising money by concerts, teas, etc., a plan of systematic giving has been arranged. From this they have about $130 a month to buy Red Cross supplies.

June Comes Back

Continued from page 24.

the advantage to her, were she to stand in her mother's place in our home."

"And perhaps, if she did not bow to your will, and order her life on the pattern drawn by you for her, be treated as her mother was," Beresford answered. "What can you do for her that I would not do? I have worked for her, thought for her, planned for her, all these years. Money and comfort I can give her, she will be a rich woman, for all I have is hers. There is nothing in this wide world I could do to ensure her happiness that I would omit."

"And it is because we know that we may appeal to you," said Lady Cranston. "I know what you have done, others have told it to us, and I have seen and spoken with June. I can imagine the sacrifices you would make for her, since we have seen you. She has been a fortunate girl to have found, in her need, such protectors as you and your sister. If this meant her absolute separation from you, I would wish her to stay. But, Mr. Beresford, is there not another side to the matter? There are some things, in spite of your affection, that you cannot give her. She is very beautiful, very charming. Is it not desirable that she should see a wider world, and meet those who belong to the station in life that is hers by every right? Is there any one here to whom you would wish to give her in marriage, when the time comes? You are unmarried, the only women in your house are servants, can she obtain here those advantages that money canot buy, social relationship with women of her own world? She would wish to stay with you, love and loyalty alike would inspire such a determination, but could you allow her to make the sacrifice?"

Jack was silent, the appeal was powerful. There was a barb, possibly not intended, in her words, that drove sharply in his heart. He was neither June's father, nor brother, nor any relative. Kate and he had not even formally adopted her. She was a woman now. Marriage had to be thought of. His mind ran over the few men in the hamlet. The idea of June marrying any of them was repulsive to him. He didn't know why it should be, they were pretty good, average men, who would be well off one day. Then the truth came to him, the idea of any man marrying her would be repugnant to him. The veil fell from his eyes, and he knew what his love for her really was.

"Think the matter over, Mr. Beresford," said Sir William. "We leave the matter absolutely with you, and will acquiesce in the decision you may make."

After they had gone Jack sat long pondering the situation bitterly, resentfully, fearfully. He would not, could not let her go. She would stand with him in all the strength of her loyal heart. But could he let her make the sacrifice? To her he was the brother, father almost, who had brought her up. His love and service through the years barred any other relationship. Her gratitude raised an impassable barrier between them.

She met him at the door when he entered, smiling welcome on her lips. He did not know what they had said to her, but he saw the clear, strong loyalty to him in the eager warmth of her greeting, in a new tenderness.

In the library after dinner she told him of the interview. The Cranstons had been nice and kind to her, she liked Lady Cranston especially. It was pleasant to know her people, perhaps she was a little proud to know that she belonged to so eminent a family, but otherwise they meant little to her. This was her country, her home, her Jack.

He said little. After she had left him, he sat up late, pondering, reasoning, fighting, yet with a sickening conviction in his heart that he was losing the fight with himself. The following evening he brought the matter up again.

"Sir William and his wife will come for the decision to-morrow," he said. She looked up at him from the neddlework in her hands.

"Decision, Jack? It has already been made." Then as she noted the cloud on his face, she put aside her work.

"I wish they had never come," she said. "They seem like interlopers sent to mar our happiness. If you look so awfully grumpy, Jack, I shall begin to think you doubt me. I don't want to go away. I

Continued on page 61.

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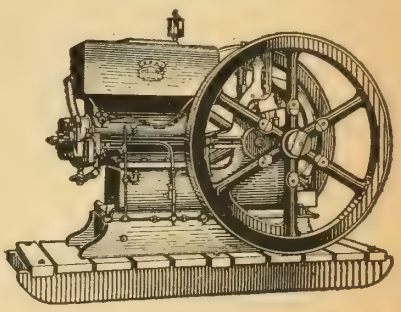

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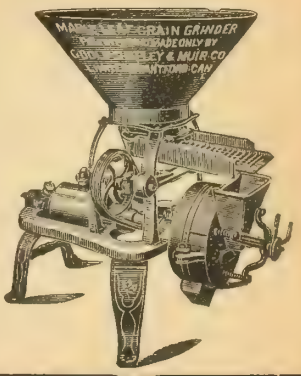

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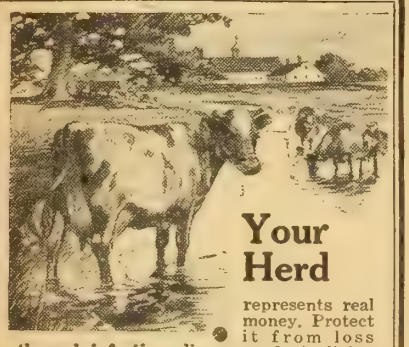

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The Business of Dairying

* **Farm Dairy Cheese** *

We have spoken of soft cheese made from cream, milk, skimmilk and buttermilk, and have shown how a hard cheese, such as Cheddar, can be made over into a soft cheese. This month we will give directions for making hard cheese at home following to a certain extent the methods used in making Cheddar cheese. This cheese is often called Farm Dairy Cheese.

It is well to begin this work in a small way using the separator supply can or some large tin vessel and after a few trials larger amounts may be used. A wash boiler is often used in the home in place of a small cheese vat.

The night's and morning's milk should be mixed together and the temperature raised to 86 deg. To each 100 lbs. (10 gals.) add one cupful of good flavored sour skimmilk and stir thoroughly. It is necessary to test the milk to know if it is ready for adding the rennet. In the cheese factory they use the acidimeter and they also use what is called the rennet test. To make this test, take 8 ozs. of milk at a temperature of 81 deg. Put in it a small piece of straw or wood to act as an indicator.

Stir the milk, add 1 dram of rennet extract and keep stirring for 10 seconds, withdraw the stirrer and note the time when the indicator stops moving. A watch with a second hand is required for this work as it is necessary to count the number of seconds from the time the rennet was added until the indicator stops. If it took between 20 and 24 seconds the milk used would be in condition for setting right away. If it took much longer it would be an indication that the milk was too sweet and it would be necessary to wait for awhile to allow more acid to develop. Try it again in about twenty minutes to see how it is coming on. In the home we may not have an 8 oz. glass and a dram measure so a teacup and teaspoon will have to be substituted.

If a colored cheese is wanted add 1 teaspoonful of cheese coloring per 100 lbs. milk. Take the stirring dipper filled with milk and add to it the coloring, then mix it well with the rest of the milk. Four teaspoonsful of rennet extract will be sufficient for each 100 lbs. of milk. The rennet should be diluted with about twenty times as much cold water and thoroughly mixed with the milk.

When the curd is firmly coagulated it is ready for cutting, this will be in about 20 minutes from the time of adding the rennet. To test the curd for firmness run the forefinger into the curd at an angle of 45 deg. until the thumb touches the curd, then make a slight break in the curd with the thumb and gently move the finger forward, raising it at the same time. If the curd breaks clean it is ready for cutting.

If a person has a pair of curd knives the work is very quickly done by cutting the curd with the horizontal knife lengthwise of the vat and then using the perpendicular knife, cutting first crosswise and then lengthwise. When the work is completed the curd will be in small cubes. If curd knives are not at hand it will be necessary to use a long-bladed knife, cutting the curd in strips about one-third of an inch wide, cutting first crosswise and then lengthwise, and lastly cutting in a horizontal manner. It is rather tedious cutting without curd knives and time will be gained if two people take a knife each.

After cutting stir the curd gently for about ten minutes then gradually raise the temperature to 98 deg., taking about 30 minutes to do so. The speed at which the temperature should be raised will depend on the acidity, heating more slowly if the acid is low.

When making cheese without a vat the heating or cooking may be done by placing a pail or can of hot water in the vessel containing the curd. Keep stirring gently to get the curd evenly heated and to prevent the curd matting.

When part of the whey has separated from the curd the cooking may be completed by heating some of the whey on the stove and gradually adding it to the rest.

When the curd has reached 98 deg. it will not require as much stirring as the curd particles will have shrunk somewhat and become firmed.

In about 2½ to 3 hours after adding the rennet the curd will be ready to have the whey removed. A home test much used is to take a handful of curd, press it together and then release the pressure. If the particles of curd are firm and springy and fall apart when the pressure is released the curd is ready for dipping. The hot iron test may also be used. Heat the poker or some piece of iron in the fire until it is red hot. Take a handful of curd, carefully squeeze it to remove the whey. Touch the curd to a spot on the iron that is not hot enough to burn it yet so hot that the curd will stick to it, then carefully draw the curd away. In doing this fine, hair-like threads will be drawn out and if these measure about ¼ of an inch in length the curd will be ready for dipping.

Different methods for separating the curd from the whey may be employed, depending on the conditions under which we are working. If working with a regular cheese vat the whey can be drawn off and the curd piled at one end of the vat or placed on a rack in the vat, first covering the rack with a larger piece of lightweight cotton. In some farm dairies a

large piece of cotton is spread over the lever butterworker. The cream strainer is used for dipping the curd and when the free whey has escaped through the perforations the curd is deposited in the butterworker.

Stir the curd over then cover it and allow it to mat together. When matted (this will be in about 20 miutes) the curd should be cut in strips about 4 inches wide and also cut crosswise and the blocks of curd turned over. In 20 minutes turn again and pile the blocks two deep.

In an hour to an hour and a half after dipping, the curd will be ready for milling. The curd should be well matted and when a piece is separated it should tear apart like the meat on the breast of a chicken. A farm dairy will not likely have a curd mill unless it is especially equipped for cheesemaking so a knife will have to be used as a substitute. Cut the blocks of curd in narrow strips, also cut crosswise leaving the curd in pieces about the size of your little finger.

Stir over the curd then add salt at the rate of 4 ozs. salt per 100 lbs. milk. Sprinkle on about one-third of the salt at a time stirring well after each addition. When the salt is dissolved the cheese will be ready to put in the hoops.

A strong hoop of galvanized iron, 6 or 8 inches in diameter, with handles on the sides, makes a good hoop for farm dairy work.

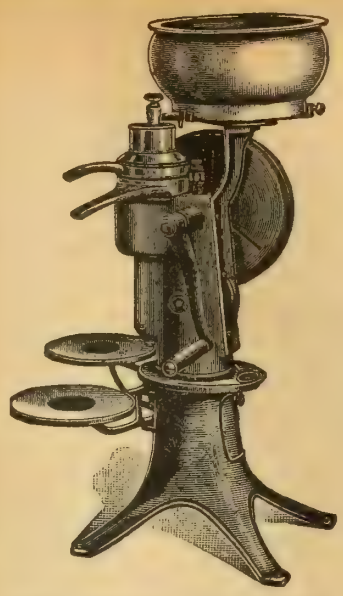
If there is a bandager, the bandage is placed on it and the bandager slipped into the hoop, the curd is packed in and then the bandager is withdrawn. However, if there is not a bandager, pack the curd in the hoop and press it to make it solid before trying to put the bandage in it.

After a cheese is put into the press apply the pressure gradually and leave it three-quarters of an hour. At the end of that time it may be taken out, and if the bandage is on the cheese it should be drawn up to remove the wrinkles. Use a cloth dipped in hot water to assist in this work, it will also help to make a better rind on the cheese.

Trim the bandage evenly, allowing about three-quarters of an inch to come over on the ends. Place a circular piece of cloth on the top and bottom of the cheese, return it to the hoop and place it in the press, end for end.

Next morning take out the cheese and examine it to make sure it is in good condition and turn it again before putting it in press. Leave it under pressure a few more hours, then remove it from the hoop and place it on a shelf in a cool room to ripen. Turn the cheese everyday for about a month. Some people like cheese very fresh and will use it when it is but a few weeks old, while others prefer to keep it for several months before cutting. Cheese are often dipped in hot paraffine wax when about a week old. This is done to prevent mould and drying.

During the last few years a new and popular cheese has been placed on the market, that is, the 1-lb. Cheddar cheese. Small cheese hoops are used measuring 3½ inches in diameter and into each is weighed 18 ozs. of curd. After pressing for an hour the cheese are taken out, a strip of bandage is placed around each cheese and a square of cotton on each end, and then the cheese are put to press again. Next morning the bandages are removed, and the cheese are pressed a few hours longer. After removing the cheese from the press they are allowed to dry



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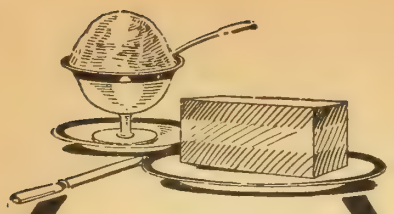

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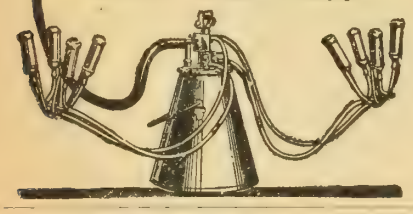
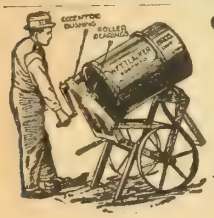


ALPINE AND PERENNIAL SEEDS.

Unique collection adapted for Canadian climate.

HARDY PLANT FARM, ENFIELD, ENGLAND.



Concrete Machinery for the Farm

Hand cement mixer pays for itself in 7 days. Write for Special Offers. Crushers, Brick, Block, Tile Machines, power mixers etc. New and Second Hand Gas Engines.

Wettlaufer Brothers, Limited 181 Spadina Ave., Toronto

off, when they are dipped in hot paraffine wax. This style of cheese is in great demand, especially in small families. It is economical, as often there is cheese wasted through drying, when housekeepers buy a thin one-pound wedge cut from a large cheese.

We have spoken of pressing the cheese, but some may want to know of some simple home method by which they may do this part of the work. Take a long piece of scantling and place one end of it under a small block of wood fastened to the wall. On a strong box, a few feet from the wall, place the cheese, having the scantling rest on a block of wood on top of the cheese follower. On the other end of the scantling place a weight such as some iron, a pail of stones or a sack containg some sand. While the work of cheesemaking is simplified by having such equipment as press, mill, vat and curd knives, do not forget that good cheese can be made with the utensils already in the home, together with a cheese hoop and some rennet extract.

1,090 Pounds of Butter in Year.

"Beauty Maid," a four-year-old cow belonging to A. Boyle, of Woodstock, Ont., has a cow that looks a record butter producer. Under Government test from January 26, 1916, to Jan. 24, 1917, she gave 14,852 pounds of milk, which yielded 872 pounds of butter fat. The butter equivalent of this was 1,090 pounds a year. The next best record for a four-year-old cow is slightly under 1,000.

Holsteins in New Zealand.

In New Zealand the largest milk record so far made by a junior three-year-old Holstein heifer is credited to Burkeyje Sylvia Posch,bred in Canada by Mr. A. D. Foster and exported to the antipodes by Mr. Neil Sangster, says W. A. Clemons. The heifer calved at 3 years and 30 days, and in 365 days gave 19,024.7 lbs. milk and 610 .42 lbs. butter fat, equal to 763.02 lbs. butter 80 per cent. fat. In her previous lactation period she freshened at 1 year and 350 days, produced in the year 16,646.3 lbs. milk and 505.2 lbs. butter fat, equal to 631.50 lbs. butter. This heifer is a daughter of Inka Sylvia Beets Posch, sire of Mr. Hardy's famous May Echo Sylvia, and a long list of other great producing daughters.

York County First Holstein Sale.

York County, Ontario, has been growing into the Holsteins in their dairy work for some time, but only this season have they organized a York County Club, in connection with which they hold an annual sale to dispose of their young stock. Under the leadership of R. W. Burnaby, of Jefferson, they organized a sale at Richmond Hill last month that should carry great encouragement to every lover of the breed. In all they had listed sixty-five head of stock and had provided adequate and convenient sale ring accommodations on the Richmond Hill Fair Grounds. Capt. T. Merritt Moore auctioned the animals and secured an unusually good average. The time was a busy one for farmers, but the attendance and interest proves the demand for this breed in the way farmers are willing to pay for quality.

Forty-one cows, 3 years old and over, averaged $171, while the whole 65 made the good average of $167. The highest price was paid by D. A. Dunlop, of Toronto, for Gipsy Wayne, 8 years old with a record of 26.64 lbs. of butter in a week, at $390. She was consigned by Frank Boyle.

H. F. Elliott, of Unionville, who was one of the committee, contributed about the largest number and secured good prices for nearly all of them; his highest going at $335. R. W. Burnaby sold 10 with a top of $250.

The purchasers were largely from adjacent counties. A particularly good sign of the healthiness of this breed prices was the purchase of 5 head, for $920, by John Quinlan, of Pickering, who since his emigration from Ireland has worked up a fine herd of utility cows and made some money.

Does the Dairy Pay?

The Michigan Agricultural College has isued a bulletin entitled "Studies in the Cost of Market Milk Production." During the years 1913-1916 twenty-five farmers co-operated in the work for these data. They found out many details and rearranged these under headings which form very interesting reading. The results may be given as follows: In the matter of labor milking took 57 per cent. of the time, feeding 12 per cent., cleaning barns and other care of cattle 17 per cent. Roughly speaking, the care of a dairy herd will consume one-half hour of a man's time each day for every cow in the herd.

The average food requirement per cow was valued at $65.24. The total expenses per cow $150. The three classes of expense, labor, feed and overhead charges, show 30 per cent. for labor, 45 per cent. for feed, and 25 per cent. for overhead. The average yields per cow 6,928 lbs. for 1916 and 7,156 for 1915. Total values for milk and manure showed a profit of $8.23 per cow in 1914 and $6.31 in 1915. The cost per gallon in 1915 thus figures out at 15.39 cents.

On these farms the average investments for dairy cattle, buildings and equipment per cow was $82.30. The percentages ran as follows: 45 per cent. in cattle, 54 per cent. in buildings, and 1 per cent in equipment.

In the whole inquiry 18 dairies were found to carry a profit of $281.43, while 7 had a yearly loss of $256.61. The same bulletin shows in each case why the losses occurred.

The bulletin concludes with the statement that during the last two years the cost of labor has increased about 25 per cent., of concentrated feeds 30 to 35 per cent., of Roughage 10 per cent., and of the minor supplies of milk room requirements 25 to 50 per cent.

By using the feed and labor values that prevail in his vicinity, the producer will the minor supplies and equipment of milk room requirements 25 to 50 per cent.

Beans in Huron County.

Mr. N. E. Cook, of Hensall, estimates that there will be 1,800 acres of beans grown in Huron County, Ontario this year. Generally the public look upon Essex and Kent as the bean counties, but Huron's big crop will mean over a million dollars for the farmers if yields and prices approximate last years average. J. J. Merner, M.L.A., of Zurich, took $10,000 worth off his farm.

Continued from page 57.

won't go away. This is the place to which I belong, my home. Now drive that awful frown away. Come into the drawing room, I'll play and sing to you, to send away the evil spirit."

"I don't feel like music to-night," he smiled. "Let us talk, June, like the sensible folk we are. Do you know, honey," —the old, endearing name slipped out unaware—"I have thought that perhaps we ought to consider the matter more carefully. It was startling, just at first, and rather upsetting, but when looked at broadly, there is another side to it."

There was utter bewilderment in her face, her lips trembled, her clasped hands clenched tightly.

"I believe I frightened you," he smiled. "You know, June, how I'd hate you to go away, as I used to hate you leaving me for school. I was like a bear with a sore head for a month afterwards. But you had to go to school—for a time. Perhaps this is the same—for a time. I have been thinking quite a lot about it to-day, and I tell you, honey, it made me feel pretty cheap. I asked myself what business I had to keep you here, boxed up in a lone country wilderness, with an old lumberjack pitman like myself, just because I love to have you here. It made me feel mean, selfish, greedy. And the wonderful house here, it began to look to me like a beautiful cage I'd gilded with costly gold just to help to keep you."

"You are just the best, most generous—I don't know what name to call you." She began stormily, but sunshine swiftly followed tempest. "I don't know why you say all these things, Jack, they hurt terribly, you are so good to me that you have to be hard with yourself."

"There is winter coming, a long, dull time. I may have to be away on long business trips. It would be fearfully dull for you, June. You should be where you would have lots of friends, girls of your own age, and lots of gaiety and sunshine. Parties, you know, and dances, and theatres. It is all as necessary as school was. You should learn the sweetness and brightness of life, and not be mooning alone through a bitter, lonely, Northern winter. It would not mean good-bye for ever, but—just for a time. You could write and tell me all about it, the plays, and the books, and the nice people, and the grand times you are having, and I'd sit here at night and read the letters and have a fine time, too, knowing you are having such fun. And you'll have lots of admirers with their pleasant speeches and compliments. It will be just great for you. Why June, little June! You are crying. What have I said?" He went over and patted her shoulder gently.

"You want me to go, Jack!" It was not a question, but a wondering. She looked up as if she could not believe it.

"Is it because—because—you are going to get married, Jack?"

He burst into a roar of laughter that did both good.

"Married! Blessings on the girl. Having brought up one family, do you think I am going to plunge into trouble again?" She came across and pulled his ears for laughing at her, but her face was very sunny. "I am never going to get married, June, honey, I am too comfortable as I am. You see I want you to go just as I wanted you to go to school. It hurt dreadfully, but suppose I had been selfishly weak, and kept you here, what an injustice it would have been to you! I shall come over to see you sometimes, the old home daddy or brother, and you'll always be June, my June, the baby I used to play with, the tomboy who galloped over the country with me, the little housekeeper."

"Then you mean that you really wish me to go?" It was a decisive question this time. Her eyes rested searchingly on his. It was the most tremendous ordeal of his life. A word—and she would come to his arms, to rest there for ever.

"Yes, June, honey, I want you to go," he answered. "Why, it is no more than just going visiting, and we are making as much fuss about it as if we should never see each other again. You will have the grandest time, and will see all the famous places we have read about and promised ourselves we would see together some day."

"I'd rather be here on the hillside, in this dear house, with my keys and account books, and cheque book, than them all, without you, Jack," she said sadly.

"That shows how wretchedly I've monopolized you," he answered. I'll take the housekeeping books and put them away—just for the time. Nobody else will have them, and the position will be left vacant."

"Till I come back?" she answered.

"Yes, till you come back," he promised smilingly.

* * *

A FEW days served to complete the enquiries Jack had instituted, and a week later he stood on the dock and watched the liner melt away in the distant haze.

Then he turned and went back to the lonely house on the hillside. The dream had died away. The castle, built with infinite toil and pains, had vanished like some splendidly iridescent bubble at the touch. That day the first heavy snow of the season fell. Winter came over the land, summer was but a fair, fragrant memory.

When spring approached again, Jack Beresford too was across the Atlantic, with the Canadian Contingent, helping to bar the road to the Channel against the Hun.

III.

BERESFORD'S first thought was that he had been sleeping, dreaming. Slowly the world of fancy faded, like the trailing mists of darkness at the coming of dawn. He seemed like a spent swimmer whom a dark ocean has engulfed. The noise, as of waters, was still in his ears. He remembered the sensation, sinking down, and still deeper down, without pain or struggle, into the soft blacknecs that folded around him like a robe. How long, ages or moments, he did not know, for time was dead too. Then he had been raised to the surface, still cradled in the arms of night, washed up by gently lapping waves, and laid on the shores of time and consciousness again. The spell was still upon him, the mystery of the veiled second room of existence, beyond the curtain he had half lifted.

With the dream's fading, he felt cold. As he moved stiffly, there came a sharp sensation of pain. He wondered if he would ever have courage again to lift his head, that crowded world of aches and pains. His shoulder, as he twitched it, responded with a stinging stab. The rest of his body—he didn't know anything about it, save its weariness, pain, sense of brokenness. To ease the intolerable throbbing he lay quite still. The sky into which he gazed was a deep, violet, starry sea, stormless, benign. In a clump of shattered and ragged trees a nightingale sang and, listening to its ecstacy, the wounded man for the moment, lost sense of pain. And out of the velvet darkness came the face and form of the girl-woman. He closed his eyes that he might mere perfectly behold the vision of June. For never battle yet, but over the field, when the fight was done, came the seeking woman on her errand of love and consolation, and none see her, save the man she seeks. How far away, and yet how near the old life seemed! He felt, as souls must, when after the voyaging through the night, they stand on the sunlit shores of the Paradise of God. And with him was June, to make heaven more perfect by reason of its sweet kinship with earth.

AND again she came, stealing into the ward of the London Hospital, fair and sweet, her face paler, nobler, more tender. He felt the soft lips on his forehead, as in healing benediction, and the tear that plashed in his cheek.

"You can't say I'm handsomer than ever now, June, honey," he laughed, recalling the evening of her return from school.

"You were never so handsome and fine, Jack," she smiled, holding his hand. "Oh, Jack! How proud I am of you. I tried to read about it in the newspapers, but I couldn't, for the tears blinded my eyes. When I read the first awful word 'missing,' I don't think I wanted to live any more. And then came the healing news. They say you are to have the Cross, Jack. Oh, it is good to have you back. We are going to take you down to the Towers as soon as you can travel, and I shall nurse you. Most of the house has been turned into a hospital, and I have been nursing ever since I came from home."

"Home?" he laughed quietly.

"Yes, it will always be home " she answered.

"Yes, it will always be home," she honey?" he asked.

"No, I think not," she replied.

"They are all kind and good to you?"

"They are the best and dearest people in the world, Jack, except you," she answered with simple earnestness. "They are wonderfully kind, but it is not the same. Sometimes I get dreadfully homesick, at sugaring time, and when I know the maples must be crimsoning. And when the fog and rains come I long for the clear, blue skies and the sweet cold winds of the home country."

LATER they took him to the Cranstons' county seat to be nursed back to health and vigor. They were long delicious days with June, and the fatherly and motherly love of his host and hostess helped to restore him. Men and women came and went, people of the Cranstons' world, well-born, with the social hallmark that aristocratic lineage, and great, honorable tradition, writes subtly upon them. Among them June moved as with those of her own class and station. Jack's keen eyes noted the admiration her beauty and frank fineness attracted. One day she would marry, probably into some famous family, in comparison with whom the few Beresford generations at Bluewater were but of yesterday. It were better so, if the man were worthy of her. What could

the hillside mining settlement give to her? What was he? Successful, yes, in the matter of money, but money was only one of many desirable things in life, and had its strict limitations. Besides, he himself would never again be the man he had been. He would never don uniform again. The few minutes in the hot corner of the splintered wood outside Ypres, had taken full toll of him. He would always be lame, scarred. Things were much better as they were. Life could not rob him of the joys he had known.

THEN one day he went up to Town. There was a ship sailing in a few days. Just before it left he mailed the long letter to June, asking a forgiveness for going without saying farewell. He was hungry for home, and the wonderful house, and the early summer beauty of the lakeside. Much more he said, and still more was in it, unwritten, but plainly perceptible to the eyes of love. He was retreating, but as splendidly and valiantly as when he won his decoration charging the machine guns in the deadly wood.

And so he came back to the quiet house, with the locked little suite upstairs, and the calm, evenly ordered life. The mines were increasingly prosperous, war had doubled their wealth, their management was in capable hands.

During these days he turned more to the old pastoral life, the sheep and cattle, the fields and waters and woods. After the scorched hell of the battle lines, the meadows and rivers, and forests were indescribably soothing and beautiful. He now tired easily, and lay long hours in the chair couch on the verandah, often with closed eyes, for thus he could see and hear better what he desired to see and hear. Sometimes her voice in song came to him from the rooms above, he could hear the soft swish of her dress, the light fall of her feet, the rippling music of her laughter. The orchard was still in the pink and white beauty of blossoming time, and there were roses again on the bush by the verandah. The winds were warm and fresh. The sky a soft, clear, deep blue. . . .

. . . He heard the whistle of the distant train. It brought back memory of the evening June returned from school. He fell again into a long, deep, reverie. How long it lasted, seconds or hours, he did not know. Then he heard her step again, the rustle of her dress. He waited, with closed eyes, as if expecting her to bid him come to supper. A soft pair of hands were laid over his eyes, there was a kiss that fluttered like the fall of a rose petal on his brow, the fragrance of her went to his head like wine.

"June!" he whispered, scarce believing. Then his eyes opened. He stood up, as he had stood to receive his Cross. The roses in her cheeks took on a richer, duskier hue, her eyes were dewy, her lips trembled faintly.

"I had to come back, Jack. And you won't scold me, dear. I just had to. You know what you said, 'for a time,' and the time is over now." She spoke swiftly, in soft, low tones. "And I knew you wanted me, Jack, more than anyone else in the world wants me, and I wanted you."

"Wanted you!" he said. "As the world wants the sunlight."

"I am glad I went away, Jack. Things cleared before my eyes," she continued. "I came to understand myself, and you, and oh! lots of things about us. Sometimes you laughed and called me 'daughter' and sometimes 'sister,' but I know now it was all make-believe. The name I liked best was 'honey'. And while I was away I found out that I was just June Summers and you, Jack Beresford. And after that discovery—well—I had to come back. I couldn't help it, you see."

"June! Little June! It is too wonderful to believe, but you wouldn't mock me, would you, honey?" he said.

"Mock you!" she laughed, holding out her hands to him. "I want the keys back again, Jack, and the account books, and the cheque and pass books."

"I am afraid you can't have them," he replied. "The housekeeper's position has been abolished. But, we will row over to the Rectory, and when we return, I'll hand them over to my wife, my June bride."

And so, as the moonlight silvered the lake, they returned to the wonderful house on the hillside, and June came back a second time, this time really to stay.

Examinations in Agriculture

The following questions were submitted last year to lower school students in Ontario for entrance into the Normal Schools and Faculties of Education. Could you answer them satisfactorily to yourelf?

1. (*a*) Describe the two classes of poultry known as the Asiatic and the European.

(*b*) Name the breeds belonging to each class.

(*c*) Describe the process of hatching chicks with an incubator.

2. (*a*) Give the life histories of any *two* of the following: oyster-shell scale, tent caterpillar, codling moth.

(*b*) Describe the spray-mixture used to combat successfully each of the three insects, respectively, and tell *how* and *when* it should be applied.

3. (*a*) Show how the percentage of fat in milk may be accurately determined by the Babcock tester.

(*b*) What is the chief use of this test?

(*c*) How is milk pasteurized?

4. It is required to build a concrete cylindrical silo with wall one foot thick, inside diameter 9 feet and height 21 feet. How many loads of gravel will be needed to build it, assuming that the cement and water occupy none of the space but enter the crevices of the gravel, and that the wagon box is 10 feet long, 3 feet wide, and 10 inches deep, inside measurements?

5. (*a*) Indicate the points of contrast between a good *dairy* type and a good *beef* type of cattle.

(*b*) Name three breeds of cattle that are called beef breeds and four that are called dairy breeds.

(*c*) Give the characteristics of each breed named.

6. (*a*) Make a diagram showing the various parts of a bee-hive.

(*b*) What is meant by swarming, (ii) queen-excluder?

(*c*) Indicate the chief functions of (i) the queen, (ii) the drone, (iii) the worker.

7. (*a*) Point out the chief beneficial results to be derived from drainage of land.

(*b*) What are the physical characteristics of soil which especially requires tile-drainage?

(*c*) Describe the tile, and one good method of laying it.

Middle School Examination for entrance into the Normal Schools.

1st Paper.

1. (*a*) Outline the life history of any *one* of the following: wheat rust, corn smut, black knot.

(*b*) Point out the best method of controlling each of these three diseases.

(*c*) State the composition of Bordeaux mixture and describe the method of making and applying it.

2. Give, with drawings, the life histories of any *two* of the following: codling moth, cabbage butterfly, buffalo moth, June bug.

3. (*a*) Describe the work of the nodule-forming organisms which live in the roots of certain leguminous plants.

(*b*) Discuss the relation of these organisms to soil fertility.

4. (*a*) Give, as applied to bee-keeping, the meaning of the terms (i) swarming, (ii) queen-excluder, (iii) foul brood, (iv) foundation, (v) royal jelly.

(*b*) Outline the life history of the queen.

5. (*a*) Name the chemical elements necessary to plant life.

(*b*) From what chemical compounds are these derived?

(*c*) What is the special need for artificial fertilizers, and what are the three elements that such fertilizers are specially designed to supply?

6. (*a*) Describe the following kinds of soil: alluvial soil, clay loam, sandy loam.

(*b*) What is meant by (i) mulching, (ii) dry farming (iii) leaching

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2nd Paper.

1. Describe the Babcock test for butter fat in cream. Give reasons for each step of the process.

2. Give the characteristics of each of the *two* chief types of swine, and name *two* breeds belonging to each type.

3. (*a*) Point out the characteristic features of any *two* of the following breeds of sheep: Cotswold, Merino, Oxford Down, Dorset, Leicester.

(*b*) Point out the chief advantages and disadvantages of raising sheep on an ordinary Ontario farm with good land.

(*c*) Give a short description of a farm which would be especially adapted to the raising of sheep.

4. Discuss "rotation of crops" and its value to the farmer. Plan, giving reasons, a four-year rotation.

5. (*a*) What is meant by (i) pedigreed stock, (ii) herd book?

(*b*) What advantages may be derived from the use of pedigreed cattle as compared with grade cattle?

6. (*a*) Discuss the advantages and disadvantages of Statute Labor as a method of securing good roads.

(*b*) Give an account of the methods and aims of *either* of the following: (i) The Egg Circle, (ii) the Beef Ring.

7. (*a*) What are the advantages and disadvantages of a market in a small town (i) to the town itself, (ii) to the surrounding country?

(*b*) In a town without a market what inducements might be held out to the farmer to secure his trade?

ORAMUS

Eternal Father by whose power
Thy Saints of old had victories won,
When cruel oppression through the land
Stalked heedless, with Thy works undone,
Thou promised then a better day—
"Vengeance is mine; I will repay."

To-day our brave men's lives are given,
Man's lust of power to appease,
Thy people's hunger greater grows.
Through hidden menace of the seas;
Oh, Father! Still Thy promise keep,
Avenge our nation on the deep.

Our anxious hearts would fain believe
Thou rulest well on land and sea,
The cause of right to still uphold.
And Thy works magnify in Thee,
Oh, God! Let peace and justice prove
That Thou art God and "God is Love."

—*R. J. Messenger.*

About Live Stock

Co-operative Wool Sales.

The following amounts and prices of wools were handled by the provincial and local co-operative associations in Canada last year.

Name of Association.	No. of lbs. graded.	Average price.	Revenue
Prince Edward Island Wool Growers' Ass'n	27.666	38¾	$ 10,720.58
Maritime Sheep Breeders' Association	23.569	40½	9.550.88
Manitoba Sheep Breeders' Association	151,071	31.9	48,191.65
Saskatchewan Wool Growers' Association	176,556	32.41	57,221.24
Alberta Provincial Sheep Breeders' Association	51,859	30.61	15,878.63
Alberta Sheep Breeders' Association	280,515	29.9	83,867.43
Vancouver Island Flock Masters' Association	21,756	31.5	6,853.14
Argentine Wool Growers' Association, Que.	10,769½	40.	4,307.80
Argentine Wool Growers' Association, Que.	10.769½	40.0	$ 4.307.80
Beauharnois Wool Growers' Association, Que.	13.587	41.1	5,584.26
Bedford Wool Growers' Association, Que.	15.091	41.5	6,262.77
Compton Wool Growers' Association, Que.	24.387½	42.4	10,340.30
Pontiac Wool Growers' Association, Que.	52.545	42.8	22,489.26
Richmond Wool Growers' Association, Que.	17.664¾	41.7	7,366.20
Sherbrooke Wool Growers' Association, Que.	16.024	42.3	6,778.15
Stanstead Wool Growers' Association, Que.	14.102	42.3	5,965.15
Megantic Wool Growers' Association, Que.	3.909¾	42.5	1,661.64
Manitoulin Island Wool Growers' Assoc., Ont.	17.990	35.0	6,296.50
Cardston Wool Growers' Association, Alta.	129.742	32.0	41,517.44
Lacombe Wool Growers' Association, Alta.	36.107	31.14	11,444.63
Pincher Dis. Wool Growers' Association, Alta.	20.246	32.0	6,478.72
Southern Alberta Wool Growers' Assoc., Alta.	587.747	31.9	187,391.29
Vermilion Wool Growers' Association, Alta.	33.901	31.5	6,853.14

	1914	1915	1916
Total number of pounds of wool graded by the Dominion Live Stock Branches	201,217	322,905	1,726,805
Average price per lb. was	20.07	27.2	32.83
Total Revenue	$40,393.58	$88,056.49	$566,946.48

Calgary Bull Sale.

The Calgary Bull Sale last month was a success. Four hundred and fifty-four bulls sold for $134,972, an average of $297.30. The breeds were Shorthorns, with 252 bulls; Herefords, 152; Angus, 38; Polled Herefords, 5; Galways, 6 and Red Polled, 1. The Herefords brought the highest average, with Angus and Shorthorns next in order.

Good Profit in Hogs.

The Grand Valley *Star* says that a young farmer there sold a load of 24 hogs recently for 703. These cost him for purchase price and feeds $368. Thus a gain of $335 on $368 is not bad going for labor, overhead, etc.

The New Livestock Company.

An organization known as the British Cattle Supply Company has recently been incorporated with a view to encouraging an increased production of cattle, so that the British Government need not be dependent on American producers for their supply. The new association is an outgrowth of the National Live Stock Association. The National executive of this association, composed of the Hon. Duncan Marshall, minister of agriculture of Alberta; Hon. Peter Talbot, of Alberta; Hon. Nelson Monteith and Mr. McIlroy, M.P.P. for Carleton, all are actively associated with the new venture.

The stock of the association is divided into 50,000 shares of $100 each.

Already they control 492,000 acres of land, mostly in Alberta, part of which is actually owned and part held under lease. This will be largely increased by three large areas in the New Ontario belt.

The directors of the new company are: President and treasurer, T. E. Good, manager and treasurer of the Union Stockyards, Toronto; vice-president and general manager, of the Wm. Davies Company, and owner of the Talbot Ranch, Alberta. Directors: F. H. Corlin, general manager of the Montreal Stockyards; Saul M. Boren, ex-president United States National Stock Association; J. H. Fussell, vice-president of the Fussell & McReynolds Company, Toronto; L. C. Lambert, manager and treasurer of the Winnipeg Stockyards; A. C. Gordon, manager of the National Drug Company; D. B. Wood, general manager of the Wood Milling Company; J. C. Doane, vice-president of the Winnipeg Live Stock Exchange.

Keep Your Hogs Free From Lice.

It is said that the chances of a herd of hogs successfully battling against cholera is lessened more than 50 per cent. when infested with lice. Again, it is an undisputed fact that lice-tormented hogs cannot make profitable gains, and that enormous losses of high-priced feed are in this way directly due to lice.

The signs of lice are unmistakable. When your hogs rub against fence rails, posts, trees, corners of buildings, etc.,; when they are rough of coat, skin is diseased, and they become nervous and restless—it's time to take steps to rid them of these torturous pests.

In the last issue of the FARMER'S MAGA-

Farm Sanitation

Will Increase Your Profits by Keeping Live Stock and Poultry Healthy.

Kreso Dip No. 1

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at a small cost, by using our attachable outfit. Fits any Bicycle. Easily attached. **No Special Tools Required.**

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Mr. C. F. Wilhelm, 35 Shanley St., Berlin, Ontario, Canada, writes: "I received your Attachment a couple of weeks ago and I like it fine, and appreciate the difference between a two cycle motor and a four cycle. Also wish to state that it has considerable more power than the (competitor's motor.)"

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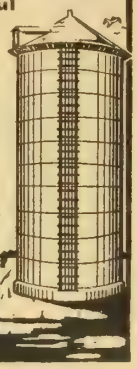

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will remove them and leave no blemishes. Reduces any puff or swelling. **Does not** blister or remove the hair, and horse can be worked. $2 a bottle delivered. **Book 6 K free.**

ABSORBINE, JR., the antiseptic liniment for mankind. For Boils, Bruises, Old Sores, Swellings, Varicose Veins, Varicosities. Allays Pain. Price $1 and $2 a bottle at druggists or delivered. Will tell more if you write.
W. F. YOUNG, P.D.F. 482 Lymans Bldg., Montreal, Can.
Absorbine and Absorbine, Jr., are made in Canada.

ZINE we had an illustration of a hog oiler which would be a good investment for any hog raiser.

Mutton Imports.

The mutton imports into Canada are very large. They totalled a value of $377,618 in 1915. The exports usually amount to less than $10,000, although for the one year—1915—they amounted to over $124,000. The value of the mutton imports is shown in the tables which follow, the figures showing that Canada can produce a very much larger quantity before even filling the home markets. Most of the mutton imports into Canada are from Australia. In many years they have exceeded a value of $500,000.

Mutton Imports.

1911	$212,695
1912	293,957
1913	544,748
1914	595,788
1915	377,618

Mutton Exports

1911	$ 2,194
1912	4,201
1913	6,766
1914	10,804
1915	124,087

1915 was the only year on record in which the exports of mutton from Canada exceeded $100,000 and the figures for that year may be attributed to the war. In the previous year the exports were worth approximately $10,000, while the imports were valued at over $500,000, the actual figures being $595,788, or a balance on the wrong side of over $585,000.

A Sheep Ranch Formed.

Rocherfondu Ranch, located on Calumet Island in the Ottawa River, has been formed into a company, and they are going into stock raising extensively. Mr. Beach, who has been interested in this proposition for some time, is one of the managers, along with Messrs. Gillenwater and Mitchell.

Young Pigs

Scours, thumps, and canker sore mouths are the most dangerous ills to overtake a young pig. For scours, nothing is better than blood meal mixed in their slop. Lime water is good to give them and also to the dam. For canker sore mouth, use peroxide of hydrogen and wash the mouth with a solution of water and one-twentieth part of creosote. For the thumps, give the pig plenty of exercise and a mild physic. Start the young pig to eating as soon as you can and give him plenty of range. There is not much danger of overfeeding a young pig, if he has plenty of room to travel, but if shut up in a close pen, do not feed him too heavy.

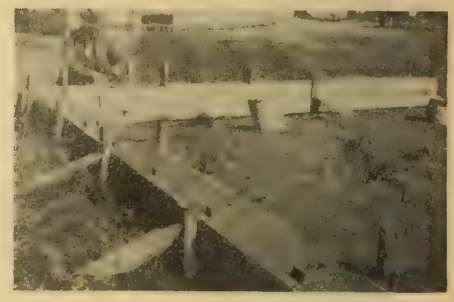
Weaning time is an important time in the pig's life, if he is not to be stunted. Always have the pigs eating good before you think of weaning them. Take the sow away for a few hours at a time, gradually increasing the time for two or three days.

Horse Breeding Future Good.

Notwithstanding the tractor demands of the present time, there is every reason to believe that the demands for horses in Canada will be strong for years after the war. The big demands from Europe, like the demand following the Franco-Prussian war of 1871, will be repeated in some measure.

Anchoring Studding to Concrete

The photo shows a good way to build without the use of wooden sills that rot so quickly. This way you can set the



Any farmer can lay a cement foundation. This shows method of bracing the forms and the insertion of iron boxes for studding.

studding right down into the sockets of cast iron and lock them there. These cast iron sockets are set into the soft concrete as you will see the mason doing in the picture. We have tried this method out very freely in several farm buildings of late and feel very safe in recommending it to the readers of this paper.—W. E. F.

Showing one of B. C.'s prosperous Valleys On the road from Lillooet to Clinton.

In The Poultry Yard

Raising Young Turkeys

As the average number of poults or young turkeys raised is about 50 per cent. of the hatch, a few points about rearing will be valuable. The great losses occur before the poults are a week old.

This high mortality is caused mainly by the following reasons:

1. Exposure to dampness and cold.
2. Improper feeding.
3. Close confinement.
4. Lice.
5. Wild animals.
6. Weakness due to poor parent stock.

Now all these are easily removed, with the possible exception of the wild animal loss.

Keep a separate coop for each hen and brood, and the coops should be scattered about the farm in such places as are easily drained and where natural food such as green vegetation and insects can be found.

More coop every day. Give poults plenty of exercise.

During a long rainy spell it is better to let poults run out between showers even if they do get into damp grass a little.

Weather conditions being favorable, the hen and brood should be given free range after the fourth day, but care should be taken to keep them out of heavy dews and to protect from rain for two or three weeks.

Young turkeys should remain with the hen until October.

For two days after hatching poults require no feed. Clean water, sand and access to green feed is all that is necessary till the third day.

When natural feed is scarce they should be fed lightly five times a day.

Sucessful turkey raisers use many different kinds of feed. Here are some common ones:

(a) Hard boiled eggs chopped fine and corn-bread crumbs the first week and then whole wheat and oats.

(b) Stale bread, soaked in milk and squeezed dry for first few days and then chick feed.

(c) Clobbered milk seasoned with salt and pepper, corn-bread crumbs.

(d) Equal parts pinhead oats, whole wheat and cracked corn.

(e) Cracked wheat.

(f) Corn meal and wheat bran mixed in proportion of 3 to 1 and baked into bread.

(g) Bran and middlings one-half, cracked corn one quarter, wheat and hulled oats one quarter.

In additon, skim-milk and butter-milk are good. Grit and green feed must be supplied if not picked up outside. Chopped onion tops, lettuce leaves, dandelion leaves and alfalfa make excellent green feed.—M.H.

Intensive Production

W. A. Stabler, of Gananoque, says that he paid $2.80 per cwt. for grain last winter for his poultry and it paid him. He has a pen 40x16 with cotton and glass fronts. His chicken house is on one of the islands and is a novelty in a way that on top at one side immediately over the heating room he has a greenhouse and over the other he has built a bee house. He combines business in a most successful way. He tells how to get winter eggs, in a subsequent issue of the FARMER'S MAGAZINE.

Fourteen Weeks Old Wyandotte Pullets owned by William Murdin, Gladstone, Manitoba.

Black Orpington Hens

England's Best

Make poultry pay, breed the best stock. For England's best Blue, Black, Buff or White Orpingtons, send to Harold Corrie. Prices reasonable. Special facilities for exportation. Satisfaction guaranteed. Write for full particulars.

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Our 264-Egg Kind.

June Hatching Eggs Most Profitable

Increase your egg yield by purchasing a setting of eggs of our high record Rocks, Wyandottes, Leghorns or Reds. 1917 Mating List containing 65 photos of stock, buildings. Feed and tonic formulas free.

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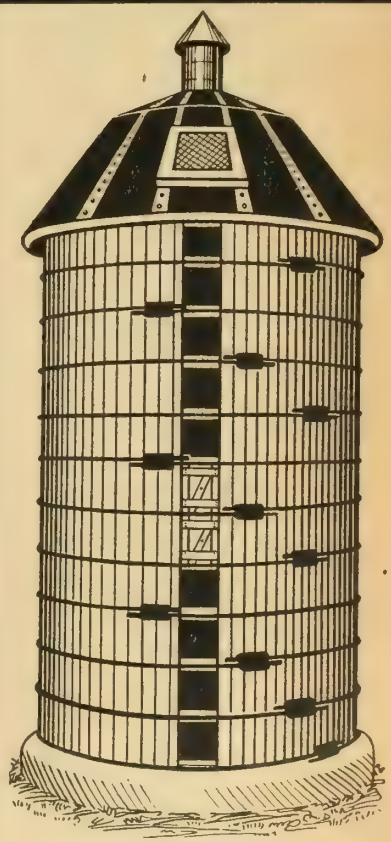

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Can be attached to any motor car.

FARMERS SILO COMPANY

MARKHAM, ONT.

A Working Hen House

Here is the plan of my hen house which I built last fall. My main hen house is 18 feet wide and 50 feet long, facing south, and 20 feet on west end, facing east. There is a driving shed on the east end, so that it is sheltered from both east and west. The house is 9 feet high at the front and 5 feet high at the back, with a short pitch roof 8 feet on south side and 16 feet to the back.

The north and west are two thicknesses of lumber on 8 inch studding and matched lumber on inside. The floor is stoned and then cemented, making a perfectly dry floor.

The front or south side has glass and cotton windows 4x4 feet, 2½ from floor. They are arranged first glass and then cotton, all across the front. The cotton are on frames, and there is a drop door to let down over them on very cold nights. The glass windows swing up to the top on pulleys, so that the whole front can be left open.

I have wire screens over all the windows; also have a window in the west end.

The roosts are made of 2x4 scantling. They are 3 feet from floor, with drop boards.

I find this house to be perfectly dry and free from draughts.

Leeds Co. —Charles Calvert.

"Shipping Coops"

Cheap, one-trip poultry shipping coops have appeared in eastern markets. They come knocked-down, are easily put together, are tight and stand up well under one journey to market. The cost, declare their originators, makes their use an economy.

The poultryman who does not care to construct his coops can buy them from $1.10 to $1.25 apiece. Such a sum secures a coop with a capacity of 24 to 30 hens and weighing 40 pounds. If the poultryman builds this coop himself, the cost to him of raw material is about 30 cents. Here is a chance for a substantial saving.

One of the large live poultry firms in Boston, receiving stuff from several thousand regular shippers, gives directions for making this good strong coop, which is approximately 12 inches high, 2 feet 6 inches wide and 4 feet long. Materials are as follows:

For slats, 18 four foot laths sawed into 1 foot pieces. Seventy-one slats appear in the completed coop.

For the top and sides, nine strips cut out of ⅞ inch stock, each strip 4 feet by 1¾ inches; and for the ends and partitions, six strips of the same stock, each 2 feet 4 inches.

For the corners, pieces 1¾ inches by 1¾ inches by 12 inches; and for the bottom 10 square feet of half-inch board.

Three pieces of strap iron or galvanized iron, 6 inches long and about ¾ inches wide, for a bar which serves as a door to slide in. Nails. The danger of splitting is decreased if strips and laths have been soaked over night in water.

The straps or galvanized iron should be bent to fit bar at top and then attached. Bore a hole through one piece and through the bar to correspond with it. A pin will then hold the bar in place.

Live poultry should be weighed before shipment, and after being weighed should be given a light feeding of grain and water. Stuff should not be despatched on Saturday. Care should be taken that coops are not overcrowded.

—J. T. Bartlett.

Selling the Eggs

Any poultry-keeper able to ship in half-case or case lots at fairly frequent intervals can get city prices for his eggs. He doesn't have to keep many hens to do this, as a half-case only holds fifteen dozen.

Look up the market reports in your weekly paper and you will note there are several different prices quoted for eggs. The top-notch price is for large, clean fresh eggs of one color, in some markets brown, in others white. Use an egg gauge, oval shaped and two and three-sixteenths inches long by one ond five-eighths inches wide, rejecting all eggs which pass through it, and observe the other requirements mentioned, and you can obtain the top price.

Never ship dirty eggs. Remove dirt with a moistened cloth if necessary. Never ship eggs with shells which are apt to break, as daubed eggs bring a very low price. Keep roosters away from your flock, thereby securing infertile eggs, and your eggs will keep fresh much longer. Use the small eggs at home.

It is easy to get in touch with reputable buying concerns in the city. Some of them charge a small commission, others do not. Some make returns in cash the week eggs are received. Egg cases cost anywhere between 50 cents and $1.25 apiece. These are the 30-dozen size, permanent, which the express company returns to the shipper for a small sum.

—J. T. B.

Why I Prefer White Wyandottes.

I prefer White Wyandottes for several reasons, one reason is because they are such good winter layers, they have heavy plumage. I had my breeders in an open shed facing south, and they stood the 25 below zero weather . I never lost a hen. I also prefer the White Wyandottes on account of their weight, having had hens that weighed over ten pounds. They also make the very best of table fowl. Also for their beauty. Where could you get a nicer lot of hens than a flock of white Wyandottes?

—Chas. Calvert.

Poultry Pointers for June

Care must be exercised to keep the chicks free from vermin. The mother hen should be provided with plenty of dusting material for every-day use. Once a week, of an evening, when her business for the day is over, she should be given a liberal dusting with a good insect powderThe dusting is more effective if done while biddy is hovering her chicks without disturbing her or her brood. In this way biddy herself dusts her flock far more effectively than can her owners. The powder works in among the little fellows' feathers and about their heads, in this way clearing off all vermin.

The whole premises should be cleaned out at least once a week and well supplied with fresh earth or chaff, or short straw. An ocasional spraying with some good disinfectant will save many a life and add dollars to the right side of the profit and loss account. As the hot weather approaches, the extreme of cleanliness is scarcely enough to keep the hens and chicks working up to their limit.

For a couple of months at least the hens will be in close quarters as it is hard to keep a serene mind when one discovers the poultry holding a dust convention in the flower or vegetable garden. All the more is the need that the hens be made comfortable by keeping their quarters clean and well ventilated. Fresh water, a little green clover or a sod will be sure to find a noisy and grateful welcome.

Then the nests must be cleaned of brooders every night. Good feed, a well ventilated fattening coop, situated where there is plenty of stir and biddy should be laying in ten days. Of course, all hens over a year old, unless kept for some special purposes should be fattened.

—A. K.

The Guinea Fowl

Guinea eggs are good eating.

The flavor of Guinea meat is similar to that of the wild fowl.

As a rule the Guinea hen does her laying between the hours of 10 o'clock in the morning and 2 o'clock in the afternoon.

When hatching the young break through the shell at practically the same time.

Young Guineas are delicate and tender until they are well feathered. For this reason it is advisable not to hatch the eggs before June.

The Guinea cock shares with his mate the work of raising the young. He seems very fond of them, and will guard them during the day, and hover them at night on the ground.

It is hard to distinguish the old and the young in the fall of the year, when they are running together.

The call of the male Guinea is different from that of the female.

The Guinea gives a cry of warning which at once alarms the rest of the poultry, and they keep in hiding until the alarm ceases.

When returning home to roost, the hen by some instinct is able to pick out her own young from the flock and remain with them for the night.

Guineas do not scratch, and for that reason they are valuable to have in the garden, as they are constantly in search of bugs and worms, without digging up plants, as would chickens.

While it is natural for Guineas to roost in trees or on low buildings at night, it is best to early train them to roost in the house.

They are of too tender a nature to roost outdoors during winter.

The Guinea seems to sleep "with one eye open." The least noise puts them on the alert at night, and they quickly send out the alarm.

Guineas generally start laying in April and keep it up till October.

As the shells of the Guinea eggs are hard, their keeping qualities are held much longer.

The meadows and fields in summer afford the Guineas much food, and they prefer seeking it themselves.

The cry of the male and female differ. That of the female sounds like "Come back, come back," while that of the male resembles "Tick, tick."

The red ear lobes of the cock are larger than those of the hen.

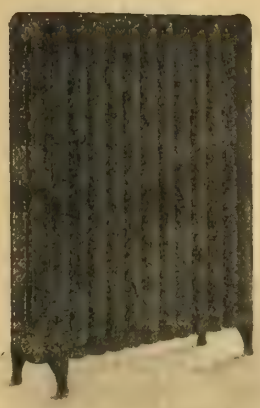
Guineas do not thrive in confined quarters.

A Farm-house to be Comfortable Must Have Hot-Water Heating

Hot Water Heating is the simplest and most economical. It is easy to operate, requires little care, never gets out of order and is extremely clean.

KING *Hot Water Boilers* AND IMPERIAL *Radiators*

"Summer all Winter with a King Boiler in the House"



King Hot Water Boilers and Imperial Radiators can be installed in any home—city or country. No separate water system is required, as the hot water channels in the King Heating system are self-contained. A cellar is not necessary—a ground floor room will do. The King Boiler does not leak gas, the ash pan is dust-tight and our special feature of thin water-channels makes quick circulation of hot water, quick heating of the house and great economy of fuel. With the present high cost of coal, the fuel economy of the King alone is a strong reason for buying it in preference to all others. The King Boiler will Burn Hard Coal, Soft Coal, Coke, Wood, but hard coal is recommended. If you want your family to be comfortable next winter, start now and get information about the King Hot-Water Boiler and Imperial Radiators, and get prices and plans for installation. Your steamfitter or dealer will give our goods unqualified approval. Ask him. Our Booklet "Comfortable Homes" is free on request. Use the coupon; cut it out and send it in to-day.

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Manufacturers of Hot-Water and Steam-Heating Apparatus, Fenestra Steel Sash and Steel Reinforcing for Concrete

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Please send me, without any obligation on my part, a copy of your booklet, "Comfortable Homes." There are — rooms in my house. Please give me approximate cost of suitable size Hot Water Heating System.

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Address .....

The Credit Man

EVERY big house, every well-ordered business concern doing big business with many customers spread over a wide territory, has a credit-man—someone who passes upon credits and watches customers' accounts. Perhaps this man is a principal. Perhaps he is an accountant. Perhaps he is an out-and-out Credit Man

This man must keep himself informed; must watch markets, market tendencies, general business conditions and world movements, because these have a direct or indirect effect on credits.

Also, this man, if he has the right sort of mind, sees how the purchasing department of the business with which he is connected is related to the broad world of finance. He sees, for example, how supplies and prices of raw material have their swift effect on the commodities his firm deals in; and he is guided, in his counsels, by this knowledge.

The worth or value or earning-power of this credit man can be made greater by his faithful reading each week of

THE

FINANCIAL POST

OF CANADA

ONE really wonders how any credit man in Canada can do without THE FINANCIAL POST; or why he does without it. It costs far more than its subscription price ($3.00) to do without it. And just think of the return for the $3.00 spent to have it arrive each week! It can help a credit man to acquire a greater value to those he serves; and therefore can help him to earn $5.00 a week, or $10.00 a week, or $20.00 a week, more to his salary. It depends on the man—not on THE FINANCIAL POST.

Put the matter to trial. Sign and mail the coupon as the first step in advance.

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Investments and Insurance

For the Farmer

Loans to Farmers

Banks to Give Aid to Those Who Need Seed Grain.

No farmer in Ontario need go without seed grain this year, for the sum of $200 will be available at the nearest bank for each one of them who desires to increase his acreage and needs the money to buy seed. The arrangements, as made by Hon. T. W. McGarry, Provincial Treasurer, through the Organization of Resources Committee, with the Bankers' Association, for such loans to Ontario farmers' provides also that the loans will be repayable with interest at 6 per cent. on November 1, after the farmer has sold his crop, or in case the crop fails and the farmer is unable to repay the money, the Ontario Government has agreed to make it good.

Details of how 175,000 farmers in the Province of Ontario may collectively borrow $35,000,000 have been worked out.

Terms of the Loan.

While labor and seed are essentials in connection with the greater production campaign, the committee have also arranged with the Bankers' Association to secure a larger amount of credit for farmers. The sum of $200 will be available for every farmer who desires to increase his acreage, upon the distinct understanding that he plants it in seed, so that no farmer in the province need go without seed this year. This will not apply to those farmers who have already obtained loans from the Loan Committee for Northern Ontario.

The food shortage which the world is facing at the present time cannot be met in one season, and it will be at least three years before conditions will be at all normal. The work of the committee is. therefore, being planned along large and permanent lines. Looking to the future, great attention is being given to the experiments being made with farm plow tractors, and upon these experiments proving successful, it is expected that there will be a large number of these secured so that every possible acre will be under cultivation by the fall of this year.

Farmers' Troubles

Any farmer with any investment troubles, insurance quandaries, bond or mortgage difficulties can have the benefit of our experts' advice by writing to the editor of the FARMER'S MAGAZINE and his questions will all be answered in these columns under his initials. In every case the man's full name and address must be sent as a guarantee of good faith.

Manitoba Loans

Applications for loans to grain growers have come in very fast to the Manitoba Farm Loans Board since its appointment. Over a quarter of a million dollars of loans were applied for within two weeks of the opening.

The Alberta Farm Loan Act

The Mortgage or Land Act in Alberta im moedlled very closely after the system adopted in New Zealand, and it should go far toward assisting farmers and specially ambitious homesteaders in Alberta. This Act provides for the lending of money on first mortgages on farm lands in the province up to 40 per cent. of their appraised value, calculated on the basis of value and productiveness when the improvements in respect of which the loan is desired have been made. The maximum amount that can be loaned to any one person is fixed at $5,000.

Every mortgage shall be for the period of thirty years and shall provide for the payment on the first day of January in each year of equal annual instalments of principal and interest so as to repay the loan within the period mentioned. Any mortgagor may pay off his mortgage in full after it has run one year upon payment of a bonus equal to six months' interest or after the mortgage has run five years without any bonus. After the expiration of five years from the date of the mortgage the mortgagor shall have the privilege of paying on any interest day on account of the mortgage the sum of $25 or any multiple of $25. This virtually gives the same option as though short term mortgages were in effect.

Where loans are required for the making of improvements advances may be made by instalments as the work progresses, but in no case shall the advance on account of a loan for improvements exceed the proportion which the work done at any time bears to the entire work undertaken.

Free Wheat and Loans

Another very important factor that is making the march to the new lands of the West more popular, is the increased assurance of financial accommodation which has been conveyed to the farmer through the recently adopted rural credit schemes of Alberta, Saskatchewan and Manitoba. "What effect will free wheat have upon the business of lending money on mortgages in the West?" the manager of one of the principal loan companies in Winnipeg was asked.

"In time I should think that it would tend to help our business, but as yet we have felt no direct results one way or the other from it," was the answer given.

The same gentleman, however, went on to say that the chief influence in money-lending circles just now is the part being taken by the provincial governments of the West in extending credit to farmers. "Here we have the Manitoba Government," said he, "advertising money for farm loans at 6 per cent. Now, we know that it is impossible to lend money profitably at that rate of interest out here if

the funds have been secured in the markets of the East at 5 to 5½ per cent." The only explanation of the Manitoba Government's six per cent. money was that certain funds held by the Province in the bank were being issued to farmers on long terms at the advertised rates of interest. While the Governments of Saskatchewan and Alberta had not yet actually transacted any financial business with the farmers, their rural credit schemes were just about to be put into operation, and altogether the general effect of them in all three prairie provinces was to reduce materially the number of mortgage loans issued from the offices of the established private companies. In due time, it is expected that the trust loan and mortgage companies, because of their long-standing equipment for the handling of loanable funds, will regain, under conditions of fair competition with the provincial governments, much of the business which at present seems to be falling by the wayside

After the war Western Canada will want thousands of settlers for her agricultural lands. Even now, the second wave of immigration into the West seems to have started. In order that these new people may establish themselves solidly in Canada, and be of use to themselves and to the country of their adoption, economic conditions must be highly favorable to them. Too many people in the West are saying that if the prairies are to return after the war to seventy per cent. wheat with the old conditions prevailing as well, few settlers will attempt to come to Canada, and many of those who are here now, will not be content to stay. There must be an agrarian policy for Canada. Free wheat and rural credits are two very important items in that policy; but they are not all by any means. —Norman Lambert.

No Extravagance

Our people are asked to avoid extravagance and waste, to practise reasonable thrift and economy; and it is sound advice, says the *Springfield Republican.* Lord Cunliffe, the governor of the Bank of England, told the New York merchants Saturday: "I would venture to remind you that nobody knows how long this war is to continue, and if you are to put up the notice: 'Business as usual,' I would suggest that extravagance should not be as usual." That is to say, some lines of industry must suffer, if economy be practised by the people; and the reduced consumption there, also, will affect trade. A disturbing readjustment is sure to take place, in spite of the heavy expenditures for war purposes by our own government and the Allies amounting to many billions of dollars raised by loans and taxation.

Sound Investment Principles

A successful man, and a very wealthy one, was asked to outline the principles he followed in determining his investments. He answered promptly and briefly, laying down two rules only:

1. In buying securities of any company one should know something about the management and from them, or others in the same line of business, get direct information as to the value of the property.
2. Do not purchase on rumors as to what may happen. Be sure the information you are depending upon is not only the truth, but comes from those who know the facts.

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INSURANCE

There comes a time in the history of every policy when the holder faces a crisis—not on account of the illness of the assured, although that very often constitutes a serious crisis, when the policy is valued more than ever—but on account of a temporary lack of funds for carrying it on. A premium is due, and the policyholder's available funds are required for sundry other purposes. It may be simply that he wishes to add some more or less expensive luxury to his home, or he is tempted to some extravagance which he could readily decide against if the glamor of the moment is allowed to pass. The premium insistently calls for payment, and he is obliged to choose whether he will allow a valuable policy to lapse or give up his half-formed plan to use the money for other purposes. If he is wise, he decides to pay the premium, and that deposit of funds rescued from the waste expenditures of a life-time, is practically found money for the estate.—C.L.

Telephones—Social and Commercial

Continued from page 12.

moment or two if neighbor Robinson is not using the line, thus saving the wear and tear on motor tires or equine equipment. Now that rural mail delivery, a first cousin of the rural telephone, is extending so rapidly, the frequent voyage to the local post office is fast passing. The "going-for-the-mail" trip was generally utilized as well for other purposes. An order for groceries from the local store, an urgent message to some neighbor and a myriad other messages were frequently on the waiting list. With ease the telephone now takes care of all these.

How great a blessing it is when sickness suddenly develops in the home. The doctor can be advised, day or night, and is soon at the bedside of the sick one. This is truly a satisfying condition to anxious friends at such a time, and undoubtedly often results in the saving of human life.

Only a few of the uses of the rural telephone are embraced in the preceding paragraphs. Its abuses could be efficiently detailed by a local commission in any neighborhood thus served. Summarizing results, it would appear that the saving of both man-power and horse-power is an item of material importance. If this saving be turned to profitable acount in connection with the general work of the farm, it will afford opportunity to accomplish many improvements which otherwise would have to be indefinitely deferred.

If a commission should be appointed to fully investigate the rural telephone, there would undoubtedly be discovered not

only this galaxy of good features, but as well some adverse criticisms, perhaps diminutive in character. During a rural sojourn which I enjoyed not long ago, one of my good farmer friends lamented the activity of the telephone bell during the day service, owing to the party line system, and spoke in vehement fashion of the loud ringing of the said bell during the hours of slumber. Furthermore, the lack of privacy was not to his liking, especially if any of the neighbors were prone to carelessness in enumerating the number and lengths of the rings, thus causing confusion and inefficiency of the service. But pasing over these objections, which he felt assured would rapidly minimize, he was supremely delighted that the local ine had found its way to the fourth concesion range into his home. Being public spirited, he was also anxious that a like benefit be extended to every section of the country.

Twe essentials are necessary in connection with any institution to warrant it a permanent place in national betterment. These are its powers of utility, and its means of affording pleasure. On each of these counts, the rural telephone has easily won.

Thrift in Forest Fires.

There are estimated to be 10,000 forest fires in Canada every year of all sizes and descriptions. Nine tenths are set by human hands, and the damage runs from four to ten millions of dollars, not counting damage to soil, to the value of watershed areas and many other factors.

Sportsmen can help by seeing that no camp fire is left this year until it is "dead out." A few extra pails of water or spades of sand will make this point certain. No fire should be set except among rocks or gravel, never in a bog or in leaves or needles. Throwing lighted tobacco or matches into the forest is conduct that is chargeable only to amateurs.

Jobs a Tractor Can Do

CLEARING LAND—Pulling up trees, Tearing out hedges, Pulling stumps, Grubbing, Pulling stones.

PREPARING SEED BED AND SEEDING—Plowing, Listing, Disking, Crushing clods, Smoothing, Rolling, Packing, Drilling.

HARVESTING—Mowing, Hay loading, Hay hoisting, Pulling grain binders, Pulling corn binder, Pulling potato digger.

BELT WORK—Hay baling, Corn shelling, Irrigating, Pumping, Grinding feed, Sawing, Threshing, Husking and shredding, Silo filling, Clover hulling, Stone Crushing.

ROAD WORK—Grading, Dragging, Leveling, Hauling Crops, House moving.

MISCELLANEOUS—Elevating corn, Loading logs, Stretching wire, Ditch digging, Spraying, Spreading, and many other jobs.

The Swallows

Fly away, fly away over the sea,
Sun-loving swallow, for summer is done;
Come again, come again, come back to me,
Bringing the sunshine and bringing the sun.

When you come hurrying home o'er the sea,
Then we are certain that winter is past;
Cloudy and cold though your pathway may be,
Summer and sunshine will follow you fast. —Christini Rossetti.

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All queries must be accompanied by the writer's name and address. If personal answer is required, enclose a 3-cent stamp. Address all correspondence to Grasmere, THE FARMER'S MAGAZINE, *Toronto, Canada.*

Markings of Bronze Turkeys

F. K. R., Ontario.—What are the marking M.B. Turkeys? Should the hen have a tassel on the breast.

Answer.—The plumage on back and breast of male is brilliant bronze which glistens like burnished gold. The main tail feathers are pencilled with lines of brown ending with black band and an edging of white. The wing coverts are bronze, the feathers terminating in a wide bronze band which crosses the wings when they are folded. The ends of coverts form a ribbon-like mark of glossy black, with markings of brown ending in dark bronze bar which is edged with white. Only the males develop the "tassels."

Stitching Machines

W.D.B., Ontario.—Among other good hints which you advocate re *increasing production, you might speak of cleaner threshing, and government owned Ditching Machine operated at cost.*

Answer.—We have advocated this at different times. I still believe if the government would put out ditching machines in different parts of the country to be operated at cost they would find the demand would exceed any expectations they have had, just as is the case with their machines in New Ontario.,

Wants to Own a Farm

A. J. R. McG., New Brunswick.—As I am receiving your FARMER'S MAGAZINE *every month, I am very pleased with it I am much interested in farming, but as I have no farm I would like very well for you to tell me how I could work the problem to get one. I am getting two dollars a day in summer and work about three months in winter for thirty dollars a month. But in the summer I have to pay four dollare a week for board and I cannot put enough money aside to buy a farm, as they all want the payment down. Owing to the high cost of living would you advise me to wait till I earn money enough to buy one or else get one on a mortgage?*

Answer.—I commend your ambition to get a farm of your own. If you had a small amount to pay down on a place and could get the Agricultural Department of your province interested, you might meet with success. I am writing you personally.

Large Black Pigs

W. E., Ontario.—I noticed on page 74 of the May issue of FARMER'S MAGAZINE *a paragraph about the large black pig. Can you tell me the breed of this pig and where I could get one for breeding purposes I intend putting one sow off this fall on account of age, although I don't think a farmer could have a more prolific animal, as she has raised me 38 pigs in one year. I would like a lengthier breed. Mine are the Chester White, and I usually put them on the market at 5½ months, averaging 212 lbs. Any information on my inquiry wil be thankfully received.*

Answer.—This is the large black pig of Great Britain and the article in question was written by the secretary of the society. I know of none on this side. You might write him. The Chester White is a good pig. My first efforts were with this breed and we liked them. Latterly I handled Yorkshires and put off a litter on the market at 5½ months of age at the same weights, 212 lbs. With the big movement now going on for bacon type why not try a real good Yorkshire—particularly of a prolific easy feeding family like the Cinderella.

Root House

A. S. P., British Columbia.—Could you advise me as to the safest root house to build or where I might obtain this information. An inexpensive type is what I would prefer.

Answer. — The Agricultural Department at Victoria issued a booklet, if I mistake not, describing cheap root houses. Send for it.

The Saw-Toothed Grain Beetle

Mrs. H. S. C , Ontario.—I am enclosing in small paper an insect or bug that seems impossible to get rid of. I have a built-in kitchen cabinet and somewhere in it they seem to be thick. It has become impossible for me to keep cereals or sugars, baking powder, in fact they seem to get into everything except tea, coffee and salt. When I first noticed them a year ago in the oatmeal bag I bought a quantity of tin cans and kept everything in those, but though it seems incredible they still go into the contents of the cans. The baking powder for example, if the powder is stirred they disappear or burrow down into the powder, but if let stand a short time and remove the lid again you will find 9 or 10 on the surface again. I then tried glass jars and got a new supply of cereals, etc., thinking I had them surely fixed, but still the cupboard seems full of them. I painted the inside with a good coat of white enamel, but of no use. Can you tell me some sure remedy for them, also what causes them. I can keep cereals, etc., in other places and they do not bother them. If you can help me I will be truly grateful, as it is near housecleaning time and if I could entirely get rid of them it will be lifting the

most annoying problem from my shoulders.

Answer.—On examination the insects submitted prove to be the saw-toothed grain-beetle *Silvanus surinamesis.* This insect is a very common pest of flour, meals, starch and other stored products, and it was probably introduced into your cupboard in cereals or similar goods purchased from an infected store, as stores and mills are frequently infested with these insects.

The most satisfactory method of eradication is fumigation with carbon bisulphide. The infested bags, jars and other containers should be placed in a barrel or box of similar capacity that can be made air tight. All the containers should be open to allow the gas to penetrate the contents. When the barrel has been loosely filled with containers a shallow dish containing about one-half teacupful of carbon bisulphide should be safely placed inside the top of the barrel which should then be closed and made as air tight as possible. It should not be opened for 36 to 48 hours, after which time all insects contained in the packages that have been fumigated will be destroyed. You could then sift the various substances through a fine sieve which would enable you to take out the dead insects and the cleaned materials could be put into new containers. The inside of the cupboard should also be thoroughly cleaned and I would suggest that you paint all the cracks with kerosene. After cleaning out the cupboard the infested materials that have been treated and cleaned may be put back and you should have no further trouble, unless you have the misfortune to re-introduce the pest in further meal or flour from an infested store.

The greatest care should be exercised in the use of bisulphide, as the vapour which it gives off is extremely inflammable. All lights such as lighted matches, cigarettes, etc., should be kept away from it and it should not be allowed to come near a lighted stove, otherwise you might have a serious fire, but provided sparks and fires are kept away it is perfectly safe to use and the process of fumigation could be carried out in an outhouse or shed. It is desirable that the fumigation should be carried on when the outside temperature is not below 60 degrees; a temperature of 70 degrees is more satisfactory.—C. Gordon Hewitt.

Sheep for Early Lambs

P. de C., British Columbia.—Please let me know all you possibly can about where to find in Canada a species of sheep that give two litters of lambs per year, and what price I would have expect to pay for good ewes of this breed.

I have known of this breed in the Old country around Geneva (Switzerland), but have not seen any in Canada, although I know that some are being raised and have been a success for the past ten years somewhere specially around Sherbrooke, Que.

Having the intention to go in for providing the market with lambs as a specialty, I would like to get all the information you possibly can provide. let me have also the title of the best book treating this subject.

Answer.—I think you must refer to the Dorset horned sheep which are used for this purpose by many people. This type of sheep in its native section seems

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to have always been noted for its fecundity, which is characteristic to day as their greatest market feature. Two lambings per year are quite possible. Many friends of the breed, however, advise that continuous twice-a-year breeding impairs the real value of the flock. The value of the lambs ready for market in early winter makes their production an attractive business to flock managers, who have the skill necessary to raise them and fruitful market facilities. There are only two other breeds of sheep that change their breeding habits from the fall to the spring. These are the Merino and the Tunis. These two varieties, however, do not produce two crops of lambs a year as a usual thing.

There are several books published on sheep farming which treat this subject incidentally, one is by John A. Craig, published by the Macmillan Company, and another is by the late Joe Wing. We could get these books for you if you desire them.

I do not suppose that you will be able to buy any of these sheep at less than $30 a head. As all sheep are now high, these being a few only in the country would be held at probably as high a price if not higher than ordinary Down sheep.

Cattle and Poultry Markers

O. W., Ontario —Please let me know by return mail where I can procure cattle and poultry markers.

Answer.—You could get the markers for your cattle by writing to Mr. John W. Brant, Accountant of the National Live Stock Records, Ottawa, Canada, and you could purchase the poultry markers from any dealer in poultry supplies, or at the seed stores.

Septic Tanks

Mrs. H M., Nova Scotia.—Will you please send me a copy of the back numbers of the FARMER'S MAGAZINE *referred to above about building a septic tank. I enclose fifteen cents to cover cost.*

I am sorry to state that we are entirely out of this issue and I have had the article typewritten and am sending you a copy of it which I think will cover the situation for you.

I am glad to know that you are finding the magazine interesting and trust that this will be satisfactory to you. You will also also find a copy of this article in the current issue.

Selling Canned Fruit

Mrs. G. H., Ontario.—I have been very successful in canning vegetables for our home table for some years, and would like this summer to make a business of it. Can you give me any information as to how or where to market my goods; also best sized can (glass) to use, pint or quart?

Any information you could give me would be most gratefully received. I appreciate the FARMER'S MAGAZINE *very much, and find it helpful in every department of the home.*

Answer.—We believe you could find a sale for your home canned fruit through the Housewives' League of Toronto. If you would communicate with their secretary , Mrs. F. S. Mearns, 240 Russel Hill Road, Toronto, she will be able to tell you what size of can would be best, and also to give you an idea of the kinds of fruit most in demand. You would be able to arrange the matter of prices with her, no doubt.

—Genevieve.

Weeds and Wild Oats

G.M.R., Ontario. — I am sending a sample of weed and would like to know how to kill it. It got a start before the land was drained and still flourishes to the destruction of either grain or hay, although the land is well tilled and worked. Is there any nourishment in the grain of wild oats. Would you say that sowing good oats in an infected field and cutting for hay when the wild oats are heading out would be a cure for them? Can you suggest a system to finish them?

Answer.—The sample of the weed is the common horsetail which infests generally cold, undrained subsoils. This plant is a two generation plant. That is, the first plant is a blackish red stalk that comes up in the spring very early and sheds its seed spores which in turn grow the second crop. It is not regarded as a troublesome weed to kill and denotes a wrong condition of the soil and cultivation. Your draining ought to do it along with good cultivation.

Yes, wild oats contain nearly the same nourishment as tame oats. Seeding down for a few years will kill the wild oats.

Ranching Opportunities

Canadians are slow to realize the immense benefits to be derived from cattle ranching. P. E. Poole, in our February issue, predicted that west of the Red River would see tremendous profits made in cattle during the next five years. Logically the same money can be made in cattle on the cattle ranges of Ontario. Inquiries about these opportunities are constantly being made of the FARMER'S MAGAZINE. The provincial government rents such lands at the low rate of five cents an acre.

—F.C.M.

Protect Birds' Nests

Orchardists would do well to be careful not to spray birds' nests with the lime-sulphur when they happen to find one in a tree. Birds are more useful than sprays.

$27.00 Seed Wheat.

J. S. Fields, a farmer near Regina, Sask., sowed a quarter section to wheat the first week in May with seed wheat worth $27 a bushel. This wheat is Seager Wheeler's prize wheat, and his own, a beardless variety which is said to yield heavily.

Some Things That May be Done

In view of a necessity so urgent, what will the farmers be wise in attempting?

First of all, each farmer must decide what he can produce must abundantly and most easily. This is no time for experimenting. Food is in demand. Vegetables and meat and wheat and oats and eggs and butter and milk and cheese are worth as much as gold or iron. The farmer who has the knack of producing any commodity that will meet any food want will be wise to turn his attention to producing that commodity up to the very limit of his holdings. There is not the slighest prospect that the world will be glutted with any of the staples of the food market. Every peck of vegetables, every ounce of grain, every scrap of meat or dairy product will be sought after at prices hitherto not dreamed of. No man need fear that he will miss it this year by growing up to the limit the thing that he can produce most abundantly and most readily. His only mistake will consist in attempting to produce commodities for which his farm is not adapted. Europe is being emptied of her food; meanwhile her agriculturalists are enriching her soil with the red rain that makes the harvest.

For instance, there are many farms with broken land that the farmer is not warranted in breaking for grain-growing purposes. Often a creek runs through such a field. The farmer who owns such a field will do well to stock it with young cattle, particularly with heifer calves. During the summer this stock will require but little attention. For a winter or so they will thrive on roughage and roots with the help of a little meal. Before the farmer knows it he will have vigorous young stock either for his own herds or feeding stalls or for sale. The writer knows a farmer who followed this course five years ago and who now reports that he doubled his money on every investment.—Andrew Kyle.

:: MUSIC IN THE HOME ::

Human Nature Likes a Bargain

Any person who has lived in the country can recall acquaintances who were possessed of the auction sale bug. Such an one attended every sale for miles around. It was his delight to bid on many articles, not that he needed them, or even that he wanted them, but it was a pleasure to bid anyway. Oftentimes there was lurking back of this desire the idea of running across something of real value for a mere song.

That same trait in human nature drives certain persons to the pawnshop to look for a fiddle. There is a general impression in the public mind that old fiddles are better than new ones. Again there have been many stories go the rounds of the person digging up a genuine old Cremona or a Strad in a pawnshop and securing it for a mere pittance. There are cases on record of famous violins finding their way to the pawnshop, but such are rare. On the other hand, a gentleman who has browsed around considerably in antique stores and pawnshops tells of the proprietor of one of the latter who did a fairly large business in "imitation" old fiddles from some European factory. He said: "It was really comical to see him reach for a slate and pencil which he kept handy for the purpose, and figure up the age of an imitation Strad for an unsophisticated customer. He would deduct the date of the bogus label inside the violin from the year it was sold, thus proving it to be 200 or more years old."

When bargain-hunting gets in the blood it becomes a gamble, but it is human nature to take a chance.

What Now Becomes of Russia's National Anthem?

The abdication of Czar Nicholas of Russia raises the questlon of the fate of the Russian National Anthem. Will it just die a natural death, or will the music of it be associated with other words? It is generally conceded that among the Canadian masses of all the national airs the music of the Russian National Anthem is one of the most popular and inspiring.

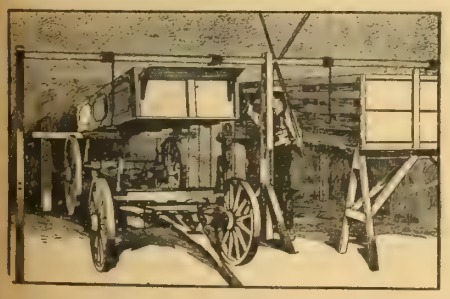
It was composed by Alexis Feodorovich Lvov, who was born in 1799. An account of what led to the production of this work appears in Lvov's own memoirs, which in brief is this: "In 1833 I accompanied the Emperor Nicholas on his journeys to Prussia and Austria. On returning to Russia I was informed that the Sovereign had expressed a regret that we Russians possessed no national hymn; being moreover tired of the English tune which had been used for a stop-gap for a very long time, he commissioned me to attempt to write a Russian anthem.

"This momentous duty seemed likely to prove difficult of accomplishment. In recalling the British anthem 'God Save the King,' which is so imposing, the French song, so full of originality, and the Austrian hymn, of which the music is so touching, I felt and fully appreciated the necessity of accomplishing something which would be robust, stately, stirring, national in character, something worthy to reverberate either in a church, through the soldiers' ranks, or amongst a crowd of people, something which would alike appeal to the lettered and the ignorant. This problem absorbed me and I was perplexed how to fill all these needs.

"One night, on returning to my quarters at a very late hour, I composed and wrote out the tune of the hymn on the spur of the moment. Next day I went to the poet Joukovsky and asked him to suggest some words; but he was by no means musical and had a lot of trouble in adapting them to the minor close of the first cadence.

"When the hymn was ready, the Emperor expressed a desire to hear it, and came to the Court chapel, accompanied by the Empress and the Grand Duke Michael. I had assembled the whole choir, and it was supported by two orchestras. The Sovereign ordered the hymn to be played over several times, and asked to hear it sung without accompaniment; then he had it played by each orchestra in turn, and finally with the united body of performers. His Majesty then said to me in French, 'It is really superb,' and then and there he commanded that the hymn be adopted for the Army.

"The Sovereign graciously presented to me a gold snuff-box adorned with diamonds, as a mark of the Imperial pleasure."



A convenient box-lifting device in the barn.

Bovril for Summer Cookery—

Clever cooks use Bovril all the year round. Bovril is the finest of meat in the handiest of forms. A spoonful here and there makes a world of difference to the strength and flavour of soups, gravies, and made dishes. Never be without Bovril in the kitchen.

We Need Your Spare Time

LET'S GET TOGETHER

Let us show you the way to increase your income to any extent you desire. If your present salary isn't quite sufficient to take care of "extra summer needs," our plan will provide the money for them. It will also furnish the funds for vacation expenses.

The best part of our money-making plan is, no time is needed, only what you can spare from your regular employment. It interferes in no way with business or pleasure, but fits in as a "money maker" into spare-time moments. Work it an hour now and then and the cash results will surprise you.

Now is just the time to start—the days are long—and are getting longer. Turn your evenings and spare time into cash by becoming our district representative.

Full particulars, without obligation, free on request.

THE MACLEAN PUBLISHING COMPANY, Limited
143-153 University Avenue - - TORONTO, CAN.

Let the Sunshine of Music Brighten Your Home

There is nothing that will bring so much joy and contentment to your home, and educate your children, than the gift of a good piano. Your children are, or will be, studying music—you want for them an instrument that will retain its tone. The

Williams Piano
New Scale
ENDORSED BY GREAT MUSICIANS

possesses that pure, sweet, singing tone that is so much desired. The Williams is the oldest piano in Canada made by skilled artisans who have devoted years to making superior pianos.

The Williams Piano is the choice of the world's great artists and bears the gold autograph of a prominent artist on each piano.

Before you buy your piano send the coupon herewith for catalogue and convenient payment plant. Fill it out and send TO-NIGHT.

The Williams Piano Co., Limited
The Oldest Piano Manufacturers in Canada
OSHAWA - CANADA

I wish to brighten my home and children with the happiness music brings. Send illustrations of your famous Williams Pianos, and easy payment plan.

Name .....

Town ..... Province .....

WOOL and HIDES

FARMERS—Why not get the highest prices for your wool and hides by shipping direct to us? You can make the middleman's profits yourself. We send cash the same day goods are received. We are now paying the following prices:

Wool (washed)	58 to 63c lb.
Wool (unwashed)	41 to 46c lb.
Sheepskins	$2.50 to $4.50 each
Beefhides (cured)	20 to 24c lb.
Calfskins (cured)	30 to 35c
Tallow (rendered)	12 to 16c lb.
Horsehides	$7.50 to $8.50 each
Horsehair (combings)	37 to 41c lb.

SHIP TO-DAY
No shipment is too small or too large

John Hallam Limited 111 Front St. East, TORONTO

SALES and WANTS

5 cents a word—per month

Rates for Classified Ads.—Insertions in this column five cents per word per issue. Each initial, four or less figures in one number count as one word. Name and address is counted as part of the ad. All orders must be accompanied by cash. Forms for the month close on 12th preceding month of issue.

JEWELRY.

WALTHAM WATCHES — $5.50 TO $150.00. Reliable timepieces. Send for free catalogue to The Watch Shop, Wm. E. Cox, 70 Yonge St., Toronto. (tf)

RAZOR BLADES SHARPENED BY EXperts — Gillette, 35c dozen; Ever-Ready, 25c. Mail to Albert Keen Edge Co., 180 Bathurst Street, Toronto. (4-18)

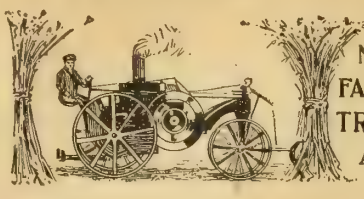
AN EXTRA INCOME FOR YOU

Who in Canada is there WHO DOES NOT NEED AN INCREASE in income to take care of extra needs and vacation expenses? That's where our plan of "spare time profits" shines with popularity. If you are one of the many who would appreciate an opportunity of turning your spare time into Cash profits, we would like to get in touch with you.

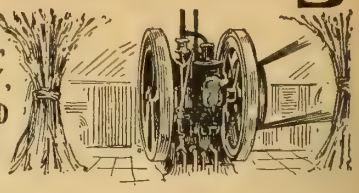
Hundreds of men and women in Canada to-day are working our plan to augment their present income and it's providing a liberal amount of extra funds for them. If you would like to join this "thrifty class" of spare times hustlers—write us to-day.

The MacLean Publishing Co., Limited
143-153 University Avenue - TORONTO

Farm Engineering



MOTORS, ENGINES, FARM MACHINERY, TROUBLE LOCATED AND REMEDIES SUGGESTED.



Farm Mechanics

Unless the up-to-date farmer to-day has a working knowledge of mechanics there are bound to be times when he will have disabled machinery and lose the working time which usually comes at a vital time in his farm work. One of the best investments during winter that can be made by the farmer, his son or employee is the taking of an automobile course of instruction which gives him a complete command of motor mechanics. Gasoline engine, whether stationary tractor or automobile, needs constant attention and adjustment. The ability of a motor mechanic to keep his machinery running in good condition is the greatest preventative and money saver that can be found on the farm to-day.

How To Clean The Car

Here are some good suggestions on keeping the auto in good shape:

Good-looking automobiles are just as important to the appearance of a city as good-looking lawns, backyards and vacant lots.

While several columns of advice might be given to the driver-owner, the following "ten commandments" will cover the subject nicely and tell what attention should be given "the old 'bus":

First—See that the gasoline tank contains a sufficient quantity of gasoline; that there is plenty of oil in the crank case; that the radiator is filled with water, and that the tires are properly inflated.

Second—Lift hood and inspect fan belt, hose connections, ignition, wiring, coil and spark plugs. Fill the storage battery with distilled water to proper level in each cell. Oil the valve stems and push rods. Inspect oil pump and fittings for possible leaks.

Third — Screw down grease cups on front springs and front axle. See that the nuts on the spring bolts are tight. Keep the spring clip nuts tight. Fill steering gear housing with soft grease.

Fourth—Remove floor boards and oil gear-shifting mechanism, clutch and brake mechanism. Inspect clutch leather and if dry, apply neatsfoot oil. Oil all clevis pins.

Fifth—Screw down grease cups on rear springs and see that spring bolt nuts are tight. Inspect transmission and differential housing for loose nuts or bolts. Examine the brakes and screw down grease cups over brake shafts on rear axle.

Sixth—Inspect body bolts and fender bolts. Fill all grease cups with good grade of medium-weight grease. Keep the wheel rims free from mud and sharp edges. Keep the body and fenders free from mud.

Seventh — Occasionally jack up car under frame, pry the spring leaves apart with a heavy screw driver and lubricate between leaves with graphite mixed with oil. Keep transmission case and differential housing two-thirds filled with a good grade of medium-gravity grease.

Eighth — Occasionally drain oil from crank case and then flush out crank case by pouring through a pint or so of two or three tablespoons of kerosene in each cylinder to cut carbon and let stand over night.

Ninth—Strain the gasoline, if possible, when filling tank. More care should be given to straining if the car is equipped with a vacuum feed system. Drain small amount of gasoline from storage tank in order to remove sediment. The strainer screen inside of top connection from vacuum tank should also be cleaned.

Tenth — Wash the car thoroughly. Makers of fine bodies recommend that cold water be used solely; but if soap is used, let it be pure soap, free from alkali and other chemicals that are injurious to the finish. After every vestige of dirt has been removed, rub dry in long sweeping strokes, don't use a circular motion. Avoid the use of furniture or kindred polishes; a hard wax somewhat like that used on floors is best for polishing purposes. This should be allowed to dry for about five minutes and then rubbed well. Upholstery can be washed with pure soap suds and then rinsed well with clean water.

If a foreign or unfamiliar noise develops, satisfy yourself as to what it is; neglecting this may result disastrously.

The Small Tractor

John Kennedy, vice-president of the Grain Growers Grain Co., well known to Ontario farmers, in a recent issue of the *Grain Growers' Guide*, advocates the removal of the duty on farm tractors, and argues thus:

With the small tractors one man can do the work of three men in some cases, and of two men in many cases with the same or less overhead expense. It will reduce the cost of plowing 50 per cent., of seeding 50 per cent., of cutting the grain 25 per cent., and of threshing 50 per cent. It will also reduce the cost of summer fallowing by 50 per cent. I can get a large number of men who are using small tractors of different makes to substantiate the above statements, and I think it is only fair that the opinion of farmers, who by practical experience have learned the lesson and know whereof they speak, should be accepted in preference to the statement of men who have not had the practical experience of working small tractors. I have spoken to a large number of them along the above lines. Every small tractor placed in the field will be the equivalent of two extra men on the farm. The removal of the tariff on small tractors will reduce the cost of the engine by one-third, and thousands will then buy them where they will not buy them under present conditions.

The results that can be obtained from horse power in plowing anything like heavy land is one acre to the horse, at a cost, including harness, of $250 per horse. The cost for horse power that will do the same work in the

All out-of-doors coaxes, teases and invites you to get an OVERLAND

There's one for you. See the Willys-Overland dealer to-day—let him show you the most comprehensive line of cars ever built by any one producer — make your selection now.

Catalog on request. *Please address Dept. 923.*

Willys-Overland, Limited
Head Office and Works West Toronto, Ontario

Willys-Knight and Overland Motor Cars and Light Commercial Wagons

Light Fours

Five Passenger Touring	$975
Two Passenger Roadster	$950
Four Passenger Sport Model	$1110

Big Fours

Five Passenger Touring	$1250
Three Passenger Roadster	$1230

Light Sixes

Five Passenger Touring	$1435
Three Passenger Roadster	$1415

Willys-Knights

Seven Passenger Four, Touring	$1950
Seven Passenger Eight, Touring	$2730

All Prices f.o.b. Toronto
Subject to change without notice

The Silo You Are Going to Build

It will most likely be the wooden stave silo. The farmers, who have made a study of the silage question, have found that the wooden silo, and the wooden silo only, preserves silage perfectly.

To be certain that your wooden silo is perfect, make sure that you know

The NICHOLSON Cable Band Silo

(Patented)

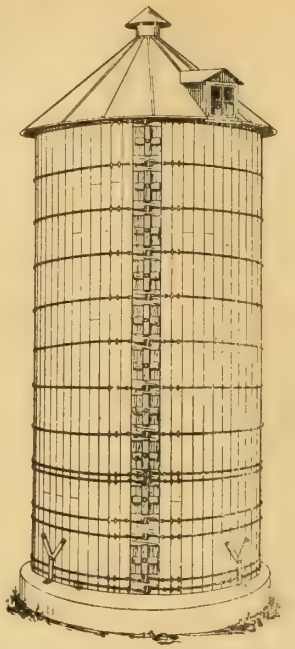
The staves are side and end matched from top to bottom—no air spaces to spoil your ensilage.

Each band is a seven-stranded cable. This will stretch and take up with the expansion and contraction of the silo—a decided advantage over the ordinary iron rod.

Every Nicholson Silo supplied complete—guy wires, anchors, ground plan, special wrench, etc.

Let us tell you more about Nicholson Silos. Fill in the Coupon now for more complete information.

Write to-day.



THE NICHOLSON LUMBER COMPANY, LIMITED
BURLINGTON - ONTARIO
(Also Manufacturers of Nicholson Three Wall Silos)

The Nicholson Lumber Company, Ltd.,
Burlington, Ont.

Dear Sirs:—

Please send me complete information on NICHOLSON CABLE BAND SILOS.

Name .....

Address .....

How Busy Are You?

Are you any busier than Ernest B. Jolliffe, of Stratford, Ontario.

Mr. Jolliffe is a business man but—he finds time in which to obtain subscriptions to MacLean's and Farmer's Magazine.

He likes to get out in the open and make new friends and is well repaid for time so spent.

What he has done you can do. Are you too busy to sell us some spare time at the rate of One Dollar an hour. Think it over. Then write us. We will give you full particulars.

Agency Division

The MacLean Publishing Company, Limited
143 University Ave., TORONTO

small tractor is just about $100. With the duty removed it would be reduced to $75 per horse equivalent. In the above calculation I take it that the cost of fuel per acre is just about equal, that is to say, that the quantity of oats and hay will equal the cost of oil per acre. But the great gain is in the man power with the engine compared to that of horse power. One man can plow as much with the engine as three men can with horses. With the power lift seeder one man can sow as much as three men with horses. In cutting the grain the difference is not so great, as it is necessary to have one man on each binder and one man on the engine. On summer fallow or breaking one man is equal to three. In threshing we find the greatest saving. A 12 h.p. engine on the draw bar will hand a 24-in. cylinder with all the latest equipment, threshing under favorable conditions 100 bushels of wheat per hour, while an outfit of five to six men and four teams will do the work at a total cost, with fuel included, of $32 per day. One thousand bushels per day spouted into the portable granary at five cents a bushels is $50 per day, while most men are paying 10c. per bushel for their threshing. This cuts the threshing bill right in half, and where you can have an extra man you can plow 8 to 10 acres at night and thresh all day. This is no dream for it has been done successfully.

So far as Sir Thomas White's statement goes in regard to duty on raw material, it would be interesting to know just what the manufacturers get in rebates and what they do not, particularly in iron and steel, and in small tractors that is all that is used. The statement has been made that there is a rebate on raw material in iron and steel to our Canadian manufacturers on goods that are sold in Canada. If such is not the case we as farmers would like to have the evidence; but if it is so, that is no reason why we should be penalized to the extent of $25 on every horse power used. If the government is desirous of encouraging production they will not refuse to at least remove the duty on small tractors, and the organized farmers should, in my opinion, make a special case of the small tractor and endeavor to get the finance minister to remove this duty. If we do not press for this we cannot expect to get it, as we know there is strong opposition by other interests to such a removal. Give us cheaper power and we will get more bread.

We are thankful for getting free wheat, which will be a great blessing to the West. If they give us cheaper power we can give more wheat, which will be another blessing that we would all be thankful for.

Cost of Concrete Silos

The first cost of concrete silos may or may not be greater than that of the best of any other kind. The time is now at hand when farmers, like railroads and corporations, are considering the lasting qualities of buildings. Concrete silos need no insurance: they do not blow down or burn up. They never have to be painted or repaired. With other kinds of silos during their short lives, these expenses alone equal the first cost. Concrete lasts forever.

BILL OF MATERIALS

Crushed rock, or screened gravel, 40 cu. yds at $1.10	$44.00
Sand, 20 cu. yds. at	20.00
Portland cement, 54 bbls. at $2.50	135.00
Reinforcing, 425 pieces of ⅜-inch x 10-foot rods, 1,564 pounds at $0.02¼	39.10
	$238.10

A Farmer Member.

J. S. Woods, of Oakville, vice-president of the Manitoba Graingrowers' Association, is a member of the new Manitoba farm loan board.

THAT LITTLE CHAP O' MINE

BY STELLA B. MIDDLEBROOK.

"To feel his little hand in mine, so clinging and so warm;
To know he thinks me strong enough to keep him safe from harm;
To see his simple faith in all that I can say or do—
It sort o' shames a fellow, but it makes him better, too;
And I'm trying hard to be the man he fancies me to be,
Because I have this chap at home who thinks the world o' me.

I would not disappoint his trust for anything on earth,
Nor let him know how little I just naturally am worth;
But, after all, it's easier that brighter road to climb,
With the little hands behind me to push me all the time.
And I reckon I'm a better man than what I used to be,
Because I have this chap at home who thinks the world o' me."

I came across these lines among some clippings the other day. I do not know who wrote them, but isn't it often true that parents are better because there are some little folk about them, in the home, to follow in their footsteps?

Someone has mentioned that baby is like the young mother, and with love and pride she takes it before the mirror and holds the little face close to her own to ascertain for herself if this is right. I wonder if she realizes how like a mirror her child will be. Somehow children seem to catch and reflect the images round about them. Watch the small boy and you will see him trying to put his hat on like "Daddy," or as he trudges by his father's side, it is Daddy's walk he is trying to imitate. And as the little girl plays with her dolls, how like mother's her voice and manners are.

Then as they grow a little older, you come across them playing house together. They are pretending to be father and mother. The boy has come from his day's work — supper isn't quite ready. The little girl speaks to him and his reply is short and sharp. You wonder what makes him speak like that. Then you remember—the other day you came home feeling tired, you had a very strenuous day—and this was the idea the little chap had of how father should act in the home. Some day he may have a real home of his own, with a grown-up girl to welcome his home coming "There to be a light shining within when all without is night," and so much of the happiness of that home will depend upon the idea of what a home should be, he has gained as a lad with his parents. If father and mother are courteous and kind to one another, and fault-finding and unkind words are never heard in the home circle, they are doing much toward making the future home of their child a happy one.

This chap o' yours believes that you are the finest man in the world, so do not disappoint his trust, but strive to get before him the highest ideal of manhood. It is worth while. Have you ever noticed how a careless spray of water falling on polished steel will stain it with rust that no effort can thoroughly efface? The early years of the child's life is the seed time and the harvest will depend upon the seed sown then. An impious, profane or vulgar thought may operate on the heart of a child, like the spray of water on the steel, and cannot altogether be removed no matter how you try.

Make the Farm Work Lighter

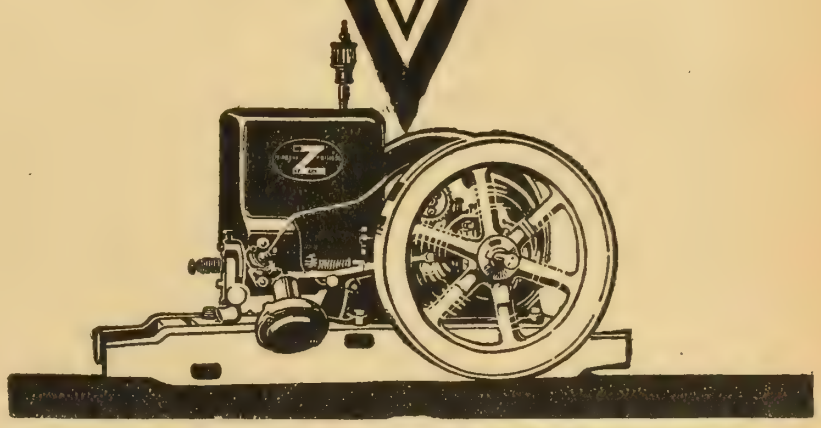
Save time and money—have the work done more thoroughly by the gasoline engine designed exclusively to take care of farm work. Do less hard work yourself—get more work done by using a

Fairbanks-Morse "Z" Engine

This is the Engine that "gives more than rated horse power" and is "a wonder at the price."
The water pumping, the lighting generator, the milking machine, the cream separator, the sawing outfit—all can be operated by a "Z" Engine.
The "Z" Engine gives maximum results for the minimum amount of gasoline. It is a marvel of power and a great time and money-saver.
Write today for complete details of all sizes of "Z" Engines.

Fairbanks-Morse Power Farm Equipment

THE CANADIAN FAIRBANKS-MORSE COMPANY, LIMITED
Montreal and Principal Cities 27



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Write for how to obtain a patent list of Patent Buyers and Inventions wanted. $1,000,000 in prizes offered for inventions. Send Sketch for free opinion as to patentability. Our **Four Books** sent free. Patents advertised **Free**. We assist inventors to sell their inventions. **FREE**

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699 Ninth Street, Washington, D.C.

LEWIS' POULTRY BOOK IN THE LIPPINCOTT SERIES

Covers the subject in a thoroughly scientific manner, yet thoroughly practical, treating each branch with sufficient detail to be entirely clear. Discusses poultry farming, breeds, housing, feeding, hatching, rearing, marketing, etc., with illustrations. Postpaid on receipt of $2.10.

The MacLean Publishing Company, Limited
143 University Avenue - Toronto

HOMESEEKERS' EXCURSIONS

MAY 8th TO OCTOBER 30th
Every
TUESDAY
"ALL RAIL" - also by
THURSDAY'S STEAMER
"Great Lakes Routes"
(Season Navigation)

Your Future is in the West

The fertile prairies have put Western Canada on the map. There are still thousands of acres waiting for the man who wants a home and prosperity. Take advantage of **Low Rates** and travel via

Canadian Pacific

Information from Canadian Pacific Ticket Agents or W. B. HOWARD, District Passenger Agent, Toronto

After Spending millions of dollars, the N.C.R.

has decided to discontinue its gigantic direct-by-mail advertising department, and has sold its mailing equipment. It has done this in favor of open advertising in the Trade and Business Press, Financial Papers, Magazines and Newspapers, because, according to its own statement, it has found the press has brought better results and secured more sales than the company's direct-by-mail advertising. So in future the N.C.R.

will concentrate in the Press

THE advertisement reproduced to the right contains the N.C.R.'s official declaration of policy. An extract from this advertisement is as follows: "This is the big message the N.C.R. wishes to place before the greatest number of people at the earliest possible date. In order to do this it has abandoned direct-by-mail advertising of its machines to 1,600,000 probable purchasers in the United States and Canada, and has sold its mailing equipment in favor of open advertising in the trade press, financial papers, magazines and newspapers solely because these have brought better results and secured more sales than the former."

Important Decision in N.C.R. Advertising

NOTWITHSTANDING the impending war, the National Cash Register Company sees and feels that retailers throughout the entire country are face to face with a period of increased sales. It is time right now for all store managers to plan for quicker service, greater protection and lower operating cost if they intend to get the greatest profit out of the coming expansion of trade.

This is the big message the N. C. R. Co. wants to place before the greatest possible number of people at the earliest possible date. In order to do this it has abandoned direct-by-mail advertising of its machines to 1,600,000 probable purchasers in the United States and Canada; and has sold its mailing equipment in favor of open advertising in the trade press, financial papers, magazines and newspapers solely because the latter has brought better results and secured more sales than the former.

The present Complete N. C. R. Department Store Equipment is fast being recognized as a standard outfit and will give a maximum of efficiency, speed, safety and economy—which is precisely what will be needed by retailers who intend to gather the fullest profits of the bigger business that is now directly ahead. Full details on request.

The National Cash Register Company
Dayton, Ohio, U.S.A.

Offices in all the principal cities of the world.

THIS deliberate utterance and decision have been made after millions have been spent in trying out the best methods of selling. No other firm in the world has surpassed the N.C.R. in its advertising and selling enterprise. It had a very hard problem to solve. It did pioneer work in its own particular field of objective and effort. It had the best minds and the best organization possible to sell its product. And always its customer was a man in business —a distributor—in the aggregate about 1% of the public. So direct methods naturally looked necessary and economical; less direct methods looked wasteful and costly. But now, after years of sternest and most enlightened striving, and after millions upon millions have been spent, the N.C.R.

has abandoned direct-by-mail advertising

and has burned its bridges by selling its mailing equipment. Not only has it done this, but it comes out openly, before all the world, and declares its decision. By so doing it leaves its former methods to competitors if haply competitors care to use them. And at the same time, the N.C.R. gives freely to all others seeking the favor of distributors the costly results of its own experience: it says that if any manufacturer or other class of firm wants the attention and favor of retailers and distributors generally, this attention and favor can be won best, quickest and cheapest by using the business and public press, and class publications.

—this must impress you

SARNIA FENCE PRICES

Advance June 10th, 1917

Direct from Factory to Farm

Take advantage of these close prices for immediate delivery

A recent announcement of another advance in the price of wire products makes the present market price approximately two and one-half times the market price of 1914, before the outbreak of the war, and many manufacturers are paying a bonus of $3.00 to $5.00 per ton for reasonably prompt delivery.

With the entrance of the United States into the war, prices on all steel are advancing and delivery dates becoming more uncertain. The enormous tonnage of steel which will be required by the Government for the manufacture of ammunition, guns and the building of ships will make it almost impossible to obtain steel for domestic purposes at any price, as government orders will be given preference.

We cannot urge too strongly to anticipate your future requirements and BUY NOW. Owing to the tremendously increased cost of raw material and advance in freight rates and present labor condition we are forced to advance all prices on June 10, 1917. In the very near future it will not be a question of price, but the problem will be to get delivery at any price.

We are in a position to make immediate delivery on a limited tonnage at the prices quoted herewith, but when our present stock is expired prices and delivery will be very indefinite. Mail your order to-day and assure yourself of prompt delivery at the low price.

For Prices delivered in New Ontario, Quebec and Maritime Provinces

Add 3c per rod to the prices of fence quoted here with 25c advance for gates and stretchers, 10c per sack of staples and 10c per coil of brace wire.

Guarantee

We guarantee our fence to be made from the best galvanized hard steel wire, both stay, line wire and knot, and to be the most perfectly woven fence on the market, and of full Government gauge No. 9 wire.

Notice

These prices are freight prepaid to any station in Old Ontario on shipments in lots of 200 lbs. or over.

Remit direct to The Sarnia Fence Co., Ltd., Sarnia, Ont., by Post Office order, money order, or bank draft.

We want your order, whether for one bale or a carload.

Send Your Order Today

Cash With the Order Saves Expense and You Get the Benefit of the Saving in the Price	Price Delivered in Old Ontario before June 10, '17	Price Delivered in Old Ontario after June 10, '17
4-34-0—**HORSE AND CATTLE FENCE.** Has 4 line wires, 34 in. high, 9 stays per rod. Made of all No. 9 wire. Spacing 11, 11, 12. Weight 5½ lbs. per rod. Price per rod	25c	27c
5-40-0—**HORSE AND CATTLE FENCE.** Has 5 line wires, 40 in. high, 9 stays to the rod; all No. 9 hard steel wire. Spacing 10, 10, 10, 10. Weight per rod, 6½ lbs. Price per rod	30c	32c
6-40-0—**HORSE AND CATTLE FENCE.** Has 6 line wires, 40 in. high, 9 stays to the rod; all No. 9 hard steel wire. Spacing 7, 7, 8, 9, 9. Weight per rod 7½ lbs. Price per rod	34c	36c
7-40-0—**HORSE, CATTLE AND SHEEP FENCE.** Has 7 line wires, 40 in. high, 9 stays to the rod; all No. 9 hard steed wire. Spacing 5, 6, 6, 7, 7½, 8½. Weight per rod 8½ lbs. Price per rod	38c	41c
7-48-0—**HORSE AND CATTLE FENCE.** Has 7 line wires, 48 in. high, 9 stays to the rod; all No. 9 hard steel wire. Spacing 5, 6, 7, 9, 10, 11. Weight per rod 9 lbs. Price per rod	38c	41c
8-40—**GENERAL STOCK FENCE.** Has 8 line wires, 40 in. high, 12 stays to the rod; all No. 9 hard steel wire. Spacing 5, 5, 6, 6, 6, 6, 6, 6. Weight per rod 10½ lbs. Price per rod	47c	50c
8-48—**GENERAL STOCK FENCE.** Has 8 line wires, 48 in. high, 12 stays to the rod; all No. 9 hard steel wire. Spacing 4, 5, 6, 7, 8, 8, 9, 9. Weight per rod 11 lbs. Price per rod	49c	52c
9-48-0—**GENERAL STOCK FENCE.** Has 9 line wires, 48 in. high, 9 stays to the rod; all No. 9 hard steel wire. Spacing 3, 4, 5, 5, 6, 8, 8, 9. Weight per rod 11 lbs. Price per rod	50c	53c
9-48-0-S—**SPECIAL HORSE AND CATTLE FENCE.** Has 9 line wires 48 in. high, 9 stays to the rod; all No. 9 hard steel wire. Spacing 6, 6, 6, 6, 6, 6, 6, 6. Weight per rod 11 lbs. Price per rod	50c	53c
9-48—**GENERAL STOCK FENCE.** Has 9 line wires, 48 in. high, 12 stays to the rod; all No. 9 hard steel wire. Spacing 3, 4, 5, 5, 6, 8, 8, 9. Weight per rod 12 lbs. Price per rod, freight prepaid	54c	58c
10-50—**HORSE, CATTLE, SHEEP AND HOG FENCE.** Has 10 line wires 50 in. high, 12 stays to the rod; all No. 9 hard steel wire. Spacing 3, 3¼, 3½, 4¾, 5½, 6, 8, 8, 8. Weight per rod 12½ lbs. Price per rod	60c	64c
POULTRY FENCE.		
18-50-P—**STOCK AND POULTRY FENCE.** Has 18 line wires, 48 in. high, 24 stays to the rod; top and bottom wire No. 9, filling No. 13 hard steel wire, spacing 1¾, 1¾, 1¾, 1¾, 1¾, 1¾, 2¼, 2½, 3, 3½, 4, 4½, 4½, 5. Weight 12¼ lbs.	60c	64c
WALK GATE 3½x48	2.75	3.00
FARM GATE 12x48	5.25	5.50
FARM GATE 13x48	5.50	5.75
FARM GATE 14x48	5.75	6.00
FARM GATE 16x48	6.25	6.50
STAPLES GALVANIZED, 1¾ in. per box of 25 staples	1.20	1.30
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STRETCHER. All iron top and bottom draw very heavy tested chain, extra single wire stretcher and splicer, the best stretcher made at any price	9.50	10.00

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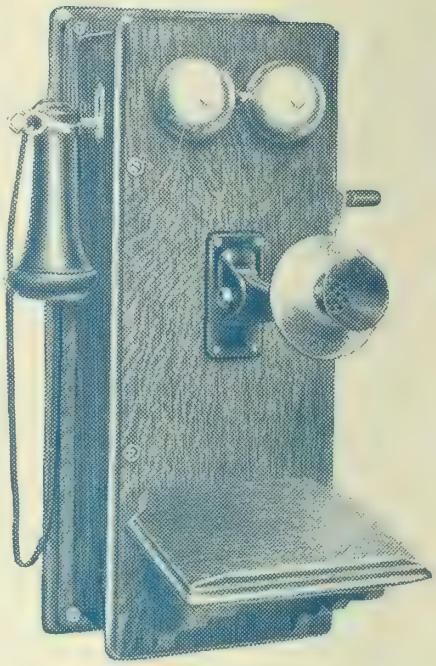

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THE FARMER'S MAGAZINE

THE MACLEAN PUBLISHING COMPANY, LIMITED, MONTREAL, TORONTO, WINNIPEG

Volume X. | TORONTO, JULY, 1917. | Number 9

Organized Marketing

on a business basis means increased profits to you

It can be done, too—that's certain because ONTARIO farmers are doing it now. There are upwards of 200 GROWERS' BUSINESS ORGANIZATIONS helping in the MARKETING OF ONTARIO FARM PRODUCTS, besides scores of farmers' clubs which buy or sell co-operatively.

These associations and clubs now handle: Fruit, Potatoes, Onions, Beans, Vegetables, Seed Grain and Corn, Live Stock (for butcher), Live Stock (pure-bred), Poultry and Eggs.

Here are some encouraging results of last year's operations:

	Value of Products Sold	Average Sold
23 fruit associations	$442,775.70	$19,251.11
14 egg circles	111,035.22	7,931.08
12 farmers' clubs..	178,624.39	14,885.36

THESE FACTS EXPRESSED IN FIGURES SPEAK FOR THEMSELVES. They prove that an efficiently organized Farmers' Marketing Association *PAYS AND PAYS WELL.* But again this must be emphasized the association must be efficiently organized.

These factors make for success.

GRADING COMES FIRST. Farm products are generally graded before they reach the consumer—and are sold accordingly. But they are seldom graded on the farm—too often they are sold ungraded and at a flat rate. That means that the high class products command the same price as the low grade while all are sold for what the medium product really is worth. This system is manifestly unjust—it discourages the good farmer and encourages the careless farmer. ***Only graded products sell at their real market valuation.***

THEN PACKING AND FINISH IS IMPORTANT. Consumers buy very largely what appeals to the eye. An attractive and suitable container, a neat pack, and the proper finish make for quick sales and increased prices.

CONTINUOUS SUPPLY — A VITAL FACTOR. When the supply diminishes, prices increase and the demand lessens. Superior products sell profitably and make for regular and permanent trade.

STUDY MARKETS AND MARKET CONDITIONS. Markets are simply consumers, and they have their preferences and their dislikes. It is good business to study and to cater to these. Then, too, the local market often becomes glutted so a knowledge of more distant markets, transportation, and methods of selling are essential for the profitable sale of surplus products.

Working for mutual benefit

A Co-operative Marketing Association establishes the reputation of the district—the association's name and brand stands for **quality.**

It eliminates the low-grade product—successful egg circles, for instance, have already eliminated the 17% of bad eggs in their districts.

It encourages community breeding of live stock and specialization in crops best adapted to local conditions. Because of this, it attracts buyers to the district and increases prices.

This in turn creates a greater interest in and a greater knowledge of markets, market demands and conditions, and, in consequence, new markets are developed and products are sold that would otherwise be wasted. Thus, for instance, where no co-operative fruit association exists apples may waste on the trees or be fed to hogs, while the consumers' demand is strong and organized societies make ready sales.

Co-operation, in short, ***PAYS AND PAYS WELL,*** and despite obstacles, is being applied upon an increasing scale in Ontario. ***Is the time yet rive to organize an association in your own district?***

Practical and timely information

If you wish full information upon any of these questions, or upon any others concerning practical co-operation in Ontario, or if you wish assistance in organizing an association in your own community, write the office of the Commissioner of Agriculture, Parliament Buildings, Toronto.

For general information upon the subject of co-operative marketing write the office of the Commissioner of Agriculture for bulletin No. 234.—Co-operative Marketing Association.

Ontario Department of Agriculture

Parliament Buildings - TORONTO

SIR. WM. H. HEARST,
Minister of Agriculture

G. C. CREELMAN,
Commissioner of Agriculture

ONTARIO

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"I have entered a new world"

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By chance, as it were, he became acquainted with

The Financial Post
Of Canada

So his worlds of interest and knowledge were enlarged and his capacity and desire for the kind of news and information provided by THE FINANCIAL POST were enlarged.

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The Credit Man

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This man must keep himself informed; must watch markets, market tendencies, general business conditions and world movements, because these have a direct or indirect effect on credits.

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The worth or value or earning-power of this credit man can be made greater by his faithful reading each week of

THE FINANCIAL POST OF CANADA

ONE really wonders how any credit man in Canada can do without THE FINANCIAL POST; or why he does without it. It costs far more than its subscription price ($3.00) to do without it. And just think of the return for the $3.00 spent to have it arrive each week! It can help a credit man to acquire a greater value to those he serves; and therefore can help him to earn $5.00 a week, or $10.00 a week, or $20.00 a week, more to his salary. It depends on the man—not on THE FINANCIAL POST.

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.....1917

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THE
FARMER'S MAGAZINE

JOSEPH MCGOEY - - Manager
F. M. CHAPMAN - Managing Editor

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The FARMER'S MAGAZINE

Volume X TORONTO, JULY, 1917 Number 9

A Lawyer-Premier, Minister of Agriculture

Putting Agriculture Into First Place

ONTARIO'S Premier took up the cudgels of the Ministry of Agriculture when the late James Duff died. He is a lawyer representing Sault Ste. Marie in the Legislature.

Considerable criticism was levelled upon his government for its failure to appoint a farmer to this office. Many blamed it upon political exigencies. Others to the lack of seasoned or suitable timber in the House.

The Premier announced that it was for the purpose of acquainting the executive more fully with the details and needs, of the agriculture department. And the manner in which he has set about the business of administering the office, shows that he was fully conscious of the big part agriculture plays in the provincial life, and of the need of a business viewpoint in its direction. Perhaps there has been no more energy in any department of government work in so short a time as the Premier has infused into the farming portfolio.

He chose Dr. Creelman of the O. A. C. to be his chief adviser and has given him every encouragement in carrying out those schemes of rural betterment which commend themselves to his judgment.

The strange situation of the present turn of events, is that the Hon. W. J. Hanna who was prominently mentioned for the Premiership upon the death of Sir James Whitney, has now become Dominion Food Controller. It is Sir Wm. Hearst's duty to produce the food.

Sir William H. Hearst, Premier of Ontario.

Ontario as the largest province of Confederation expects much of its agricultural department and there is much room for all the business talents that can be brought to bear on the situation. If development continues as the new Minister has begun, things agriculturally will assume greater importance in cabinet councils and in shaping provincial policies.

The expenditures under agriculture have risen from a few thousands when Hon. Chas. Drury headed the commissionership of agriculture to the present budget of $1,275,000. To handle this carefully, and to keep away from the stagnating influences of uncontrollable expenditures is one of the reasons why a live, resourceful man is ever needed at the helm of this portfolio. It is so easy to spend money, but so hard to spend it wisely that there can not be too much publicity of methods nor too strong a man who knows what to do and can get it done. The Hon. John Dryden had a rare combination of these qualities.

—F. M. Chapman.

Fifty Years of Agriculture: By F. M. CHAPMAN

Great Developments Have Been Made in Canada's Agricultural Methods and in Her Production.

CANADIAN agriculture celebrates the fiftieth anniversary of Confederation under the forced draft of a world war. Since Crimean times our fathers have talked of the wonderful $2 wheat and the $200 an acre farms. But now, in this year of grace, 1917, greater things than these have happened. Prices that we scarcely would credit to the wild dreams of the novelist, have become actualities. Not only has wheat reached $3 at our Canadian farm granaries, but dressed hogs have touched the record price of $18 per cwt., and beef cattle 13 cents a pound on the hoof. Eggs forty years ago, scarcely the pin money of the women, have become financial considerations of the first magnitude and the luxury of butter so great that the admission of oleomargarine into the dietary of the Dominion has been seriously entertained. The world has certainly changed and all our farming verities been tossed to the winds.

And yet the Dominion of Canada stands among the nations almost unrivalled in her potential equipment for food production. In our natural resources few countries can compare with her, none are more lavishly endowed by nature. A rich soil, splendid waterways and a resourceful people are the combinations that work for development of those natural riches. Why, then, a food controller for this vast heritage?

Hon. W. J. Hanna, who undertakes this task at the request of our government, does so, not that our own people fear starvation, but because millions of people on another continent have been drawn from production to engage in a war for democratic liberty. And free Canada, now ranged alongside of the liberty-loving American Republic, has to stand in the breach to preserve freedom for the world. It is an example of a whole continent lining up in an unselfish other-interestedness that marks the Anglo-Saxon. Canada on July 1, 1917, is fighting for the liberation of the oppressed and the bringing of political right to those that are blinded by the dominance of an idea that holds an aggregation of people or the state as the master of the sum of its citizens.

What about it? Are the resources of the Dominion of any moment in the world's supplies? A little survey, with some comparisons of the times of the sixties, when Geo. Brown and John A. Macdonald united to confederate our provinces, will be worth while at this time.

TOTAL VALUES FIELD CROPS OF CANADA.

	1915	1916
Canada	$841,297,500	$808,054,000
P. E. Island	10,932,700	14,124,100
Nova Scotia	19,556,700	22,369,800
New Brunswick	20,096,400	22,924,200
Quebec	104,683,000	102,937,300
Ontario	207,043,500	190,646,000
Manitoba	104,677,000	77,435,300
Saskatchewan	267,935,300	248,013,300
Alberta	94,747,200	114,372,000
British Columbia	11,625,700	15,232,000

If we would supplement these figures with the animal produce, our bread and butter produce bills would easily ride past the billion mark annually.

Canada's orchards and gardens constitute one of the big features of her producing areas. The figures of the last census do not include under these heads any of the gardens or orchards lying inside the boundaries of incorporated cities, towns or villages. Until this war woke our people up to the possibilities of garden production inside the town limits, little was done to derive any contribution towards their own living on the part of the majority of townspeople. Quite in contrast to the industrial centres of Great Britain and European countries where gardens surround many of the dwellings.

OUR FRUIT ACREAGE.

Orchards	403,596	acres.
Garden Vegetables	206,011	"
Small Fruits	17,495	"
Vineyards	9,836	"
Total	636,938	"

The values of Canada's fruit and vegetable production in 1910 by provinces were:

Provinces	Orchard and Small Fruits	Vegetables	Totals
Ontario	$7,819,046	$6,043,617	$13,862,663
Quebec	1,471,112	5,797,666	7,268,778
Nova Scotia	1,634,406	1,392,039	3,026,445
Brit. Columbia	1,335,104	1,023,263	2,358,367
Manitoba	21,836	1,428,402	1,450,238
Alberta	6,870	1,129,222	1,136,792
New Brunswick	330,799	873,861	1,204,660
Saskatchewan	4,155	1,047,082	1,051,237
P. E. I.	157,797	70,564	70,692
Totals	$12,781,125	$18,806,544	$31,587,669

SELECTION HAS DONE MUCH

In the matter of the development of new strains of grain, fruit and vegetables, Canada has a splendid line of achievements behind her. In no system of constructive breeding has there been shown more immediate profit to the nation at large than in the work of the late Dr. Saunders and Prof. Macoun, of Ottawa, Prof. C. A. Zavitz, at Guelph, Seager Wheeler, of Rosthern, Saskatchewan, and many individual breeders and selecters of high-producing varieties. The increase of the national wealth by the production of the O.A.C. No. 72 oats, the No. 21 barley, the Marquis wheat, and the hardy seedling and hybrid fruits, cannot be estimated in dollars. This work is being assisted and fostered in almost every province of confederation, through the field crop competitions and the exhibitions.

What we can do under intenser cultivation and with an increased population, which we are bound to get in the next few years, can only be conjectured. From a total area of 19,763,740 acres in 1901, we produced field crops to the value of $194,953,420, which grew to $797,669.500 from an area of 37,063,455 acres in 1915.

When we consider the value and extent of our cereals, our garden products, our fruits and vegetables, taken care of by preserving, canning or drying, our grapes, our wines, vinegars, sugar, honey, syrups, jellies, starch, power, alcohol, flax fibre, forest products, in all their manufactured forms, we see the field for our exploitation unrivalled by any land in the world.

The accompanying map shows the vast areas of fertile soils that have been added to the original Old Ontario and Quebec and the Maritimes of 1867.

The resources of this vast confederation of fertile provinces are almost incalculable.

Canada—A Big Livestock Centre

Some Facts and Statistics About the Place of the Dominion in the World's Markets.

CANADA'S livestock production represents considerable progress in intelligent agriculture. Her appearance as a world factor in commerce has been due, in no small measure, to the wonderful expansion of her flocks and herds and their attendant interests. As in the case of the evolution of the horse, quoted in the June FARMER'S MAGAZINE, the increase in size and the usefulness as well as the symmetry of the animal, has been produced largely through the intelligent selection by breeders. Improved animals are marks of intelligent human beings and Canada, since Confederation, ranks high as a breeding ground of the domestic animals.

. Improved types of farm animals and poultry have and are being formed. The bacon hog, the Clydesdale horse, the Shropshire sheep, the Holstein cow, the Shorthorn feeder and the White Leghorn hen, all are examples of perfection in breeding.

The numbers of live stock in Canada the year before the war and during two years of war show little variation.

Live Stock	1913	1914	1915
Horses	2,866,008	2,947,738	2,996,000
Milch Cows	2,740,434	2,673,286	2,666,846
Other Cattle	3,915,687	3,363,531	3,399,155
Sheep	2,128,531	2,058,045	2,038,661
Swine	3,448,326	3,434,261	3,111,900

Values per head 1915 and totals 1914 and 1915 of the live stock in Canada:

Live Stock	Per head 1915	Total Value 1914	Total Value 1915
Horses ...	$123.62	$371,430,363	$370,378,482
Milch Cows	61.57	153,632,637	164,223,592
Other Cattle	44.56	143,498,156	151,477,474
Sheep	7.96	14,550,710	16,224,667
Swine	15.54	42,418,325	48,363,346

Poultry production in Canada, has never been overdone or in fact sufficiently well developed to work up for us, a constant and reliable export trade. This may be due, largely, to our liberty, wide spaces, and remunerative avenues from a rich heritage. We have not had to work hard enough to establish brands and to pack the goods in a uniform way under guaranteed quality. Of late years the egg trade with Great Britain has picked up to such an extent that we are sending out large quantities besides supplanting our own needs.

And no country in the world possesses superior advantages than Canada, for the production of poultry of all kinds, eggs and breeding stock. Already much progress has been made in developing hardy prolific strains of fowls at Guelph under Prof. R. Graham and at the other experiment stations in Canada. The Plymouth Rock, the Leghorn, the Wyandotte and the Rhode Island Red have been the leading fowls on our farms. Our exports of live poultry have been largely to the United States. During the last five years the Jewish demands from our large cities have taken vast numbers in the home market. Our exports of eggs have increased from $73,972 worth in 1914 to $111,878 in 1916. The following tables from the census figures of 1911 will give some idea of the relative importance of the various varieties of poultry and by provinces.

Provinces	Turkeys	Geese	Ducks	Hens and Chickens
B. C.	8,926	6,808	27,898	968,588
Alta.	67,151	19,653	18,880	2,347,433
Sask.	72,616	22,999	54,968	3,242,820
Man.	79,639	28,472	35,411	2,442,381
Ont.	416,705	364,295	293,662	13,414,318
Que.	166,173	102,462	60,146	4,833,013
N. B.	30,175	23,283	14,196	915,000
N. S.	11,945	18,800	10,897	912,609
P. E. I. ..	9,852	42,752	11,040	697,295
Totals .	863,182	629,524	527,098	29,773,457

In the business of beef cattle rearing there are three breeds which stand out prominently.

These are the Shorthorn, the Angus and Hereford. At the time of Confederation in 1867 there were very few pure bred cattle of any one of these breeds in the Dominion. The importations of pure

Keeping constantly at it ensures production in our corn fields. There were 297,100 acres of ensilage corn in Canada last year, while 1917 promises to show a crop of 3,500,000 acres or more. Big implements, silos and power farming have made such crops possible.

breds previous to 1867 were very few. In Shorthorns the numbers imported were small, but what were brought in were prolific and many thousands of good cattle were to be found in the country. Among the early breeders and importers of the early years of Confederation were Hon. George Brown of Brantford, H. M. Cochrane, Hillhurst, Que., J. I. Davidson, ex-M.P., Ontario Co., Hon. David Christie, Paris, John Miller, Brougham, Dunn Beatty of Markham, and Hon. John Dryden, Brooklin.

In Angus, the first records in Canada were made in 1882 by the late Henry Wade. Comparatively few Angus herds had been established outside Scotland prior to 1870. Prof. Brown, President of the Ontario Agriculture College, made the first importation in 1876. Soon the Doddies became more famous as Hon. J. H. Pope, M. H. Cochrane, John Gray and Mossom Boyd encouraged them.

About 1880 registration of Hereford cattle began in Canada, and up to the end of 1914 there were 17,331 pedigrees issued by the Canadian book.

Other beef breeds such as the Devon, the Galloway, the Red Polled and the West Highland cattle have had less encouragement in the Dominion.

The numbers of beef cattle in Canada in 1916 of all breeds totalled 3,826,519 which represents a decrease of over 100,000 head below the figures for the year preceding the outbreak of war.

The numbers of pure bred of the beef breeds in Canada in 1911 were: Angus 3,340, Devon 84, Galloway 700, Hereford 7,843, Highland 13, Red Polled 340 and Shorthorns 56,607.

The advance along dairy lines has been rapid of late. The beginnings in dairy stock were laid, doubtless by the importations of Normandy and Brittany, dairy cows to New France in the time of Louis XIV about 1660. The French-Canadian cow of to-day, is undoubtedly descendant from these cattle. Subsequently, importations from the British Isles, carried pure bred dairy stock of other breeds and even had the Jersey, the Guernsey, the Holstein, the Shorthorn, and the Ayrshire well established at the time of Confederation. Early prejudices against pure breeds retarded their development in the country. This prejudice was largely due as one writer put it rather well, that—"they consumed too much food in winter and could not endure the same amount of starvation as the natives."

Importations had their periods of success and failure. Boom years were succeeded by dull seasons, but gradually the value of blood lines won the mastery and Canada to-day is in the front rank as a producing and breeding ground for high class cattle. Selection, feed, and nationalizing of records have done much to place animal breeding on a high plane.

Breed	Registrations 1916	Before War Registrations 1913
Holstein	11,053	7,000
Ayrshire	4,000	3,629
Jersey	1,308	1,135
Guernsey	146	87
Fr. Canadian	268	96
Shorthorn	14,533	9,173

The total numbers of hogs in Canada by the census of June 1, 1911, was 3,634,778, of which over 2½ millions were in the provinces of Ontario and Quebec. The same report estimates the gross returns to the farmers of Canada for 1910 from the hog industry, to be $51,344,366 of which $33,229,063 was for swine sold off the farms. In a recent bulletin issued by the federal department of agriculture, the average price of hogs for 27 years was shown to be $6.11, while the average price of feed for the same period was $1.06 per cwt. As feeders reckon on five lbs. of concentrates to make a pound of pork, this shows that there is less than a cent a pound for labor costs.

The different breeds of horses had been gradually introduced previous to Confederation but the main business of horse breed perfection has taken place since then.

PURE BRED HORSES IN CANADA, 1911.

Breed	West	East	Ontario	Totals
Cyldesdale	8,423	1,191	10,297	19,911
Belgian	168	29	19	216
Percheron	2,145	196	416	2,757
Suffolk Punch	206	1	...	207
Shire	328	10	405	743
Hackney	393	116	393	902
Standard-bred	1,042	383	1,166	2,561
Show bred	267	75	411	753
Ponies	132	2	40	176
Morgan	6	11	6	23
Coach	119	108	41	268
Totals	14,030	4,632	14,467	33,133

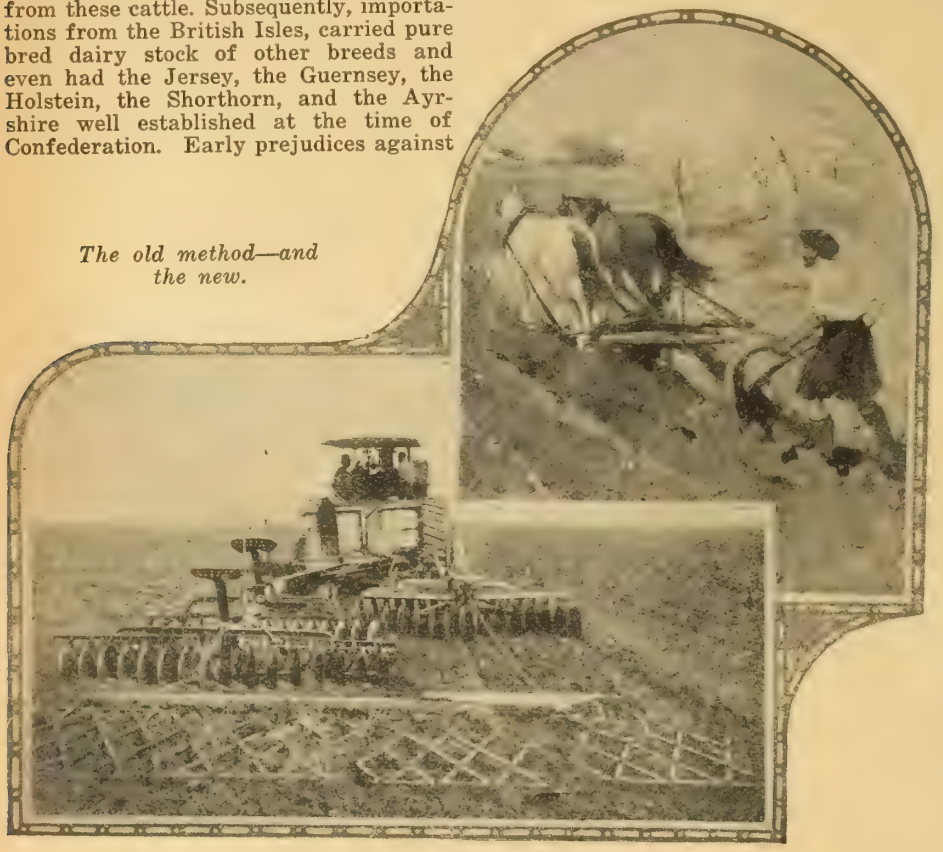
There has been an actual steady decrease in the numbers of sheep carried in the country, although the rise in values during the war years has been phenomenal. There are many reasons for this decline. The dairy sections do not want sheep at all. Dogs and wild animals make serious inroads into flocks in other parts. Absence of suitable fences is another cause. Then again the change from the small shop to the factory system in our country's economics has removed from the farm, its direct dependence on the home sheep for clothing, and with this change only the farmers possessing the shepherding instincts or the keen spirit of business, retained their flocks.

Nevertheless sheep raising has proven a success in all parts of Canada. Thousands of acres in each province could be profitably employed now in pasturing immense flocks of sheep.

Owing to the improved demands for mutton, and the tempting prices for wool at the present time, this branch of live stock more than holds its own with cattle and hogs as a live stock business. Wool at 56 cents per pound for unwashed is a record.

PURE BRED SWINE IN CANADA, 1911.

Breeds	Alberta	B.C.	Man.	N.B.	N.S.	Ont.	P.E.I.	Que.	Sask.	Can.
Berkshire	1,771	342	1,995	235	187	7,455	246	740	918	13,889
Chester White	23	39	62	301	52	1,665	112	1,901	42	4,197
Duroc	214	2	33	...	12	436	1	22	10	730
Essex	...	15	...	...	...	31	...	...	...	46
Hampshire	2	70	20	1	...	664	4	153	2	916
Poland China	215	5	145	...	4	388	...	120	93	970
Suffolk	...	..	2	...	...	4	...	5	...	11
Tamworth	141	53	363	41	...	2,996	1	634	64	4,293
Yorkshire	2,120	386	2,385	775	353	15,459	603	4,013	1,635	27,729
Not Specified	108	255	532	112	53	1,755	42	696	113	3,666
Totals	4,597	1,167	5,537	1,465	661	30,853	1,009	8,284	2,877	56,447



The old method—and the new.

Angus Prices Are High

Angus purebred cattle are also feeling the year's augmentation of prices. Escher & Ryan, who are known to many Canadians as the winners at many of the International carload exhibits, had a sale in Iowa in June which made an average of $774 for 123 head. It was a remarkable consignment of cattle and prices were made by reason of the quality of the offerings.

Ploughmen in Scotland: By WM. PRINGLE

The Condition of the Agricultural Laborer in the Land of the Heather

The writer of this article has already contributed articles to the FARMER'S MAGAZINE. *He lives in Midlothian, Scotland, and knows rural conditions perfectly. The accompanying photos, sent by him, give one some idea of the agriculture in the old home lands from which our present confederation got its first ideas.—Editor.*

The ploughman in Scotland begins work about five o'clock in the morning when he goes to feed his horses. After feeding them he gets his first breakfast and returns to the stable to harness his horses to be ready to leave the stable at six a.m. Generally he works to eleven, when he goes home for dinner and after a two-hour interval he begins work again and goes on till six p.m. He is not yet finished, however, as he has to feed and groom his horses before leaving them for the night. On the whole his work is not very hard. Although it is monotonous at times, it varies with the season of the year as each season brings its different duties.

The wages of a ploughman before the war were about twenty shillings per week on the average. Last year they were about twenty-eight shillings a week on an average; this year they are likely to be thirty-three or thirty-eight shillings per week. This seems a rather large percentage of rise, but as the necessaries of life have gone up seventy to eighty per cent. it is not too much. In addition to the money there is generally an allowance of sixteen cwts. of potatoes given to the men in the autumn, which is a great advantage to a man with a family. Of course a ploughman is entirely free from payment of county or parochial taxes, *e.g.*, road taxes or taxes for poor or education. Women workers used to receive ten shillings a week, working ten hours a day; now they get eighteen a week and some extras—potatoes and harvest money. The farmers are finding the shortage of labor very annoying. On most farms now there are too few men. Generally two or three less than before the war. Some are in the army, some are making munitions and some are in the coal and iron mines, where men are better paid than on the land. The farmers are working very hard themselves to try to make up for the shortage; but it is impossible to have things go on as smoothly as before. Boys of fifteen are driving pairs of horses and in some cases women are so employed. Ploughing is the worst work for the women and they do not use the swing plough, but one with two wheels which is much easier to manage. One or two of the larger farmers of the district are using motor ploughs, and with some success, except on the hilly ground where they are not very successful. Other farmers are using double furrow ploughs, which are a distinct saving of time. These, however, require three strong horses and a strong man to do the work. Horses are very expensive and cost quite fifty per cent. more than they did a few years ago. When extra labor is required it can hardly be obtained. Threshing generally takes more hands than the farmer has, so he receives help from his neighbors, paying them back on another occasion. Casual labor can not be depended on, as

Continued on page 67.

1. *After 50 years' of work on farms. Both husband and wife have worked together that long and are still at it.*
2. *First ploughman and his horses. These iron ploughs are used by many crack ploughmen in Canada.*
3. *A soldier sowing turnips on a Scottish farm. It looks like flat culture.*
4. *A row of ploughmen's cottages. Many will see the familiar type of Robby Burns' birthpalce, who made the ploughman famous.*

Can or Collapse

Not One Pound of Vegetables Grown This Year Should Be Allowed To Waste

By ETHEL M. CHAPMAN

"CAN OR COLLAPSE" is the slogan printed in startling white letters on the red freight cars threading through the farm lands of the New England States. The cry should be carried in some way or other to every farm home in Canada. We have lived too much from hand to mouth in the years past. We thought we could afford to do this because food was hanging from our trees, so to speak. Even in the threatening famine, the farm home will be the last to suffer, but almost every farm home has some member in the army, and we don't want short rations there. Every farm family, however secure they may be themselves, knows that there are other families in other parts of the world, driven by fire and the sword, who are perishing with hunger, and other families in Canada who will be hungry before the winter is over. The woman who saves so far as she can every ounce of food produced on the place is not only providing for her own family, but she is making it easier for some other woman to buy.

Most of the provident housekeepers have always made a practice of putting up an ample store of canned fruit. It is the summer vegetables that have not been saved in large quantities, and vegetables can be made to fill a larger place in our food supply just now. We know the medicinal value of the green vegetables like spinach, greens, tomatoes, etc. The seed vegetables like green peas, corn, and beans, beside containing some valuable mineral salts, have a considerable quantity of nutriment. They will not entirely take the place of the stronger foods like meats, wheat, cheese, etc., but they will enable us to use less of these staple, concentrated foods, which are necessary for the men who are fighting.

It is surprising how much can be accomplished, without a great deal of extra work or fuel, if the housekeeper when preparing vegetables for dinner would cook enough to make an extra quart or two and can these. A jar of tomatoes, young beets, or carrots put up every day would amount to a good deal by the end of the season. Vegetables which require long sterilization for canning, such as corn peas and beans, could not be put up by this method with any surety of their keeping.

WHY CANNED FRUIT AND VEGETABLES SPOIL

This brings us up to the housekeeper's greatest concern in the canning of vegetables; she wants some assurance that they will keep. She is not deeply interested in the bacteriology of the process, but no extensive knowledge of bacteriology is necessary. It is enough to know that the two common agents which make fruit and vegetables spoil are molds and yeasts, tiny plants or bacteria floating around in the air which lodge on the food and then continue to feed and grow on it. They must be killed by heat, by cooking the vegetables, and then any others which might enter the jars must be shut out by sealing the jars or making them airtight. If a jar of food is sealed with live mold spores in it, they will set up a growth of mold spoiling the fruit. If any yeast plants are present they will begin to grow, giving off a gas, and causing the fruit not only to ferment, but if the cover is screwed on tightly the can will explode with the vigor of a loaded bomb.

Sometimes a jar of vegetables will spoil, when the housekeeper knows that the vegetables have been thoroughly cooked or sterilized, and the jars perfectly sealed. The trouble may be that there were some mold spores in the jar when the food was put into it. It is not enough to have jars well washed. They must be sterilized just as carefully as their contents. A good method is to wash the jars and fill them with cold water, then place a rack or thickly folded towels in the bottom of the wash boiler, set the jars on this and pour cold water into the boiler to cover them. Let this come to a boil and boil for ten minutes. The tops should be sterilized in the same way and the rubbers well scalded.

So far as possible avoid having to use over ripe fruit or vegetables, and can them the same day they are picked, if possible. Besides the flavor and appearance being better when the material is fresh, it is found that molds frequently get a chance to ripen their spores on old vegetables particularly, and a mold in the spore stage is hard to kill by cooking. Where there is danger of these spores being present, and in the case of vegetables like corn and peas which seem to be infested with peculiar little molds of their own, it is safer to resort to the intermittent or three-day method of sterilization. Many women who have found corn and peas especially hard to can have no difficulty when this method is followed.

The jar is taken out of the canner or wash boiler at the end of an hour's boiling, and the top screwed down. The next day the clamp is loosened, or the rim unscrewed and another hour's boiling is given. This is repeated again on the third day, the idea being that while the mold in the spore form can resist heat, it cannot stay in this form for longer than three days at the most. If you didn't kill it on the second day you would be sure to get it the third.

SCALDING, BLANCHING, COLD DIPPING

A preliminary treatment, known as blanching and cold dipping should be used with most vegetables before they are canned, if the best results are to be obtained. Blanching and cold dipping just consist in putting the vegetables in a wire basket or cheesecloth bag, and lowering them into a vessel of boiling water or live steam for a few minutes, then plunging them into cold water. The table given below shows the number of minutes required for blanching different kinds of vegetables. Besides helping in the sterilization, this treatment gets rid of objectionable acid and bitter flavors—rhubarb blanched before cooking requires less sugar and is more delicate in flavor, it helps to preserve the natural color, and with vegetables like greens, the preliminary boiling reduces their bulk so they can be packed more solidly into the jars. The purpose of scalding and cold dipping fruits like tomatoes, peaches, etc., is, of course, to loosen the skins so they may be peeled, and to set the coloring matter.

"COLD PACK" CANNING

While cooking in an open preserving kettle works very well in canning some fruits and making preserves and jams, the woman who cans in large quantities will find the "cold pack" method far more efficient. The term "cold pack" has been misleading to some people. It doesn't mean that the vegetables are canned without heat by any means, but simply that they are packed, cold, into the sterilized jars and cooked afterwards, in a vessel of boiling water or in a steam-pressure cooker. Besides the greater convenience of this method, since most of the work can be done away from the stove in hot weather, and you don't have to watch the fruit or vegetables from the time you put jars into the cooker until you take them out, there is another point of more importance where vegetables are being canned. Practically all vegetables require longer sterilizing than fruit in canning. By the time they have been given this long cooking in a kettle, their shape and color and flavor will have deteriorated seriously.

No elaborate equipment is necessary for home canning. What are known as "Hot Water Bath" canning outfits are manufactured commercially, but a very good home outfit can be made by using a wash boiler with a close-fitting cover. Either buy or get someone to make a rack to keep the jars raised at least three-fourths of an inch from the bottom of the boiler. If you can't do this fold a thick cloth over the bottom of the boiler, and set the jars on that. When you have your fruit prepared for canning, and packed in the sterilized jars, set the jars in the boiler and put folded towels between to keep them from striking each other when the water boils. To each quart of vegetables

A rather complete bulletin, "The Preservation of Food—Home Canning," is being published by the Ontario Department of Agriculture and will be ready for distribution by the time the summer vegetables are ready for canning.

The Department is sending demonstrators for a day or two to Women's Institutes desiring more information on the canning of fruits and vegetables, making jams, jellies and general conservation of foods produced at home.

Canning centres will be opened in a few places, with an expert canner in charge, the women of the neighborhood giving their help voluntarily to assist with the work. In this way the community can have large quantities of vegetables and fruits canned for home use with the least possible cost and labor, and may be able to donate considerable quantities to Military Convalescent Hospitals and other patriotic purposes.

add one teaspoonful of salt, fill the jars to overflowing with the boiling water, set on the covers but do not screw down tightly. Pour warm water (not hot enough to break the jars) into the boiler until it comes up to the rings. Put the cover on the boiler and sterilize for the length of time indicated in the table given below. Begin to count the time from when the water begins to boil, not from the time you put the cover on. These periods are for sterilizing in two-quart jars. If using larger or very wide jars, allow more time. When done, lift the jars from the boiler, screw down the tops and invert to see that you have a perfect seal. A jar that leaks will have to go back in the boiler for a few minutes, more boiling water added and sealed again.

Where canning is being done on a large scale the steam pressure outfits have several advantages over the hot water baths, or wash boiler. They sterilize the food in a shorter time, and intermittent sterilization is never necessary where you have steam pressure.

SPECIAL TREATMENT FOR DIFFERENT VEGETABLES

About the first vegetables to can from our gardens will be the young beets and carrots, as we thin them from the rows. Boil these for about fifteen minutes until they can be slipped from their skins, pack into jars, add one teaspoonful salt to each quart, fill the jars with boiling water, set on the rubbers and tops and sterilize. In canning beets, add about one-quarter cup vinegar to every two quarts and they will keep their bright red color. These are delicious for salads in the spring when the winter-stored beets are getting tough or when the supply has been used.

Greens, spinach, beet-tops, Swiss chard and asparagus can be preserved to make a tonic, appetizing addition to the winter diet. It is important to can these the day they are picked. Sort and clean and blanch for fifteen minutes. Dip quickly in cold water and drain. Pack into jars, adding a teaspoonful of salt to each quart and boiling water to fill the crevices. Set on the rubbers and tops and sterilize.

Tomatoes, after being scalded cold-dipped and peeled, and the hard cores removed, may be stewed in an open kettle, dipped into jars and sealed. Where a considerable quantity is being done, however, it is less trouble to pack them in jars, crushing them down solidly enough that the juice will fill the jars without adding any water. If tomatoes are to be canned whole for salads, etc., select rather small, uniform-shaped ones, peel and core and plunge into a kettle of boiling water for about a minute. Put into jars but do not crush, and add boiling water to fill the crevices. Add one teaspoonful salt to each quart. Broken or badly shaped tomatoes from the same picking may be cut up and boiled without peeling in a large kettle, put through the colander to remove skins and seeds boiled down and seasoned and canned for tomato soup.

In canning corn, blanch on the cob for fifteen minutes, and cold dip. This sets the milk. Cut the corn from the cob, add a teaspoonful salt to each quart, and if you like add one-quarter cup sugar to each quart. This gives a sweeter product. Pack solidly in jars, add boiling water to fill the crevices and sterilize as explained above, or some people find a straight four-hour sterilization successful. Green peas are treated in much the same way.

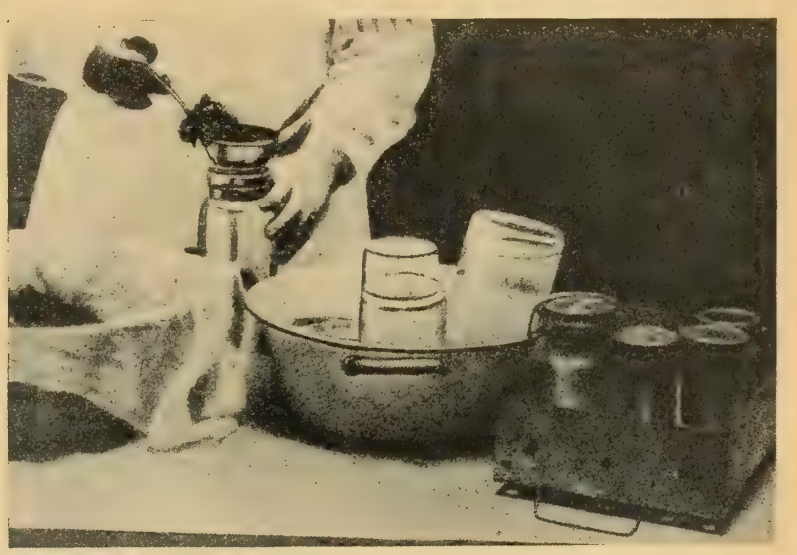
Pumpkin and squash may be put into the jars raw, for a more satisfactory method is to cook it first, and mash it. If either of these vegetables are to be used for pies, add three-fourths of a cup of sugar to each quart.

Cauliflower being one of our most delicately flavored vegetables should be grown more largely and used more as a vegetable instead of in pickles, where its natural flavor is lost. In preparing cauliflower for canning separate the flowerets, blanch and cold-dip, then soak for twelve hours in brine, using one-half pound salt to a quart of water. Drain, pack in jars, add one teaspoonful salt to each quart, add boiling water to fill the crevices, and sterilize.

DRYING AND SALTING SUMMER VEGETABLES

While green beans are easily canned, large quantities of them may be put away in brine for winter use, with very little work. Pack the beans in a crock and make a concentrated salt solution by stirring salt in a pail of cold water and adding more salt until the water will not dissolve any more. Pour this over the beans and put a weight on top to keep them below the surface. When they are to be used lift some from the brine, soak in clear water until they are fresh enough to use and cook as green beans. It would be a great economy of both time and material if we would let our cucumbers grow larger this year and pack them in brine like our grandmothers did, instead of making fancy pickles.

When the season for green corn opens every ear left from a meal should have the corn cut off and dried in the oven. This can be put away in cotton bags and in the winter soaked over night as we do white beans, and cooked to take the place of canned corn.



Cans are dear this year, and sugar is high. But fruit must be saved as the commercial article must be higher.

TIME TABLE FOR STERILIZING VEGETABLES IN CANNING.

	Blanch	In Hot Water Bath (Vessel Boiling Water)	In Steam Pres. Cooker 5 lbs. Steam Pressure
Young beets and carrots	15 minutes or till skins loosen	90 minutes	60 minutes
Greens, spinach, Swiss chard, beet tops, asparagus	15 minutes	90 minutes 120 minutes	60 minutes 80 minutes
String beans	5 minutes	30 minutes	20 minutes
Tomatoes		60 minutes	40 minutes
Pumpkin and squash	30 minutes	45 minutes	30 minutes
Cauliflower	3 minutes and soak in brine	4 hours or 1 hour on each of three successive days.	60 minutes
Green corn and peas	15 minutes		

German Parliaments

At first glance the Imperial German Government appears much like our own, says P. W. Brown, in the *Outlook*. There are two houses in the Legislature—the Bundesrath and the Reichstag—and the upper house represents the separate states of the German Empire, while the lower house represents the people and is chosen by universal manhood suffrage — all of which sounds familiar. But not too fast. The upper house—with the exception of the three delegates chosen by the three free cities of the Empire—is selected, not by the people of the twenty-five German states, but wholly by the hereditary princes. Its representation of the states is a pleasant fiction for overseas consumption; what it really represents is the interests, opinions, and prejudices of twenty-two German monarchs. It is one of the most complete and impregnable bulwarks of privilege in the world. It has amazing powers. In theory, legislation may originate in either house; in practice, the right of initiating legislation is exercised almost exclusively by the Prince-appointed upper house. This body may, with the consent of the Kaiser, dissolve the lower house at will. Acts passed by it and then passed by the lower house — the Reichstag—must be returned to it for final approval. Its power overshadows both ends of the legislative road.

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Editorial

SHEEP have decreased in Canada by 210,000 in six years. Evidently the dog is of more importance.

FARMERS consider the granting of hereditary titles in Canada as distinctly a step in the wrong direction

CANADA'S Jubilee Year finds continental ties stronger than ever. Democratic peoples can live side by side peaceably.

IF FOOD regulation depresses live stock profits out of existence this year, the world will go hungry for meat next year.

CONSIDERATION on both sides by farmers and hired labor on the farms, would prove that the troubles are often only imaginary.

MILK fat contains life-giving properties not found in animal or vegetable fats. The vitamens so necessary to all life, are particularly active in milk products

SINCE 1913, when the Saskatchewan Government passed the Agricultural Co-operative Associations Act, upwards of 350 associations have been registered. The total turnover in 1916 of 309 associations reporting, was $2,122,832.

VITAL statistics in Saskatchewan show that by far the largest percentages of deaths are caused by lung troubles. And this is a feature of other Canadian provinces. These facts should force our people into more vigorous preventive measures. There are altogether too much grip, pneumonia, colds, sore throat, and tubercular troubles.

THE COMMUNITY TRACTOR

WHY not community tractors? We work too much at loggerheads. Waste in effort and energy is apparent in all our Canadian agriculture. Co-operation in vicinity needs in the matter of machinery would be equally as conducive to results as co-operation in our power schemes for the farm. Nearly one-third of the farm holdings of Canada consist of 50 acres or under, and this percentage is greater in Eastern Canada. A tractor that could be employed in each Farmers' Club or local co-operative group would assist materially in stimulating production.

THE FATTED CALF

NO DOUBT the Women's Institute speakers, particularly those who know nothing about farm life, are doing the best they can, in assisting to pass resolutions that would prevent the killing of calves. But that does not free their deliberations from the charges that many farmers make against them, of being nonsensical and whimsical. In fact, such interferences with farm economy may be highly mischievous.

It has always been the popular way of rectifying patent evils, to hammer the head of the one who is really doing something. Surely it is not the man who is raising calves who should receive censure, and that is what their resolutions are doing; rather should he be commended for having a calf to sell, and the offender who has no cow be called to task for his deliquency. The farmer must be credited with a modicum of sense in conducting his own business. He has generally been shrewd enough to sell his goods at the best time to make living returns on the capital invested. If he sells calves, there must be a deeper reason than seems to be so easily settled as our women and unpractical men would lead one to think. How would it do for each of these reformers to abet their preaching by keeping a cow and raising a real calf?

LET GOVERNMENT BUREAUS SPEAK OUT

A GREAT many farmers quite freely express their doubts as to the wisdom of all this effort and money that is being expended in agricultural education and advertising for greater production. And doubtless there is some waste and inefficiency in it, but so is there in all educational efforts. One thing is certain, that the world is in dire need of more food and the nation of which we form a part requires every energy on our part to keep us from distress if not from worse things. The extension of the spirit of production throughout the urban centres will have a most beneficent effect in bringing home to the industrial and leisure-loving world, the basis of all wealth and the dependence of human life upon the returns from the fields. The farm has the platform of attention just now. So far, so good!

The Government's programme last year in advertising its eating of more fruit resulted in considerable good to producers. A repetition of the campaign this year will be commendable. In fact, we see no reason why the Government should not persistently advertise its business. The amount of useful information, data, and statistics that lie buried in musty pigeon holes is appalling. The people clamor for knowledge. Officialdom surfeited with its own abundance forgets the thirsting and the hungering of the common people.

FARMERS AND PUBLIC LIFE

MIXED farming pays. On the Eastern farms of Canada, a variety of endeavor allows for a yearly return, even if a particular crop fails. Where the farmer gambles his all on a single crop, he either makes big or loses all. With the older eastern farming methods where many crops are raised, there is always a certain return. Two of the subscribers to FARMER'S MAGAZINE from York County, Ontario, were discussing their yearly returns recently, when one remarked that his banked profits last year on a 100-acre farm were $2,500, while another one had just placed $2,000 in the bank from his 70-acre farm. Each of these men had fertile farms, well-tilled, and they used their best judgment in handling their budgets. Dairying, beef raising, hog raising, poultry work, fall wheat, hay, and seed grain, were each contributing to the returns. Each had splendid homes, working machinery, and automobiles. Whether they were good citizens or not is another question, but they had all the earmarks of being able to contribute to their neighborhood's higher life. Prosperity is largely the result of thrift, and thrift ought to contribute to social betterment.

In this regard the big Western wheat farms set an example in public spirit that is often lost on the mixed farm, because

of the multitude of duties that sap the energies. A man may make lots of money and be worthless to the community just as many an impecunious farmer is a detriment to all around him. Public life demands some of our time after our family is looked after fairly well.

FARM LEADERS IN PARLIAMENT

READERS of farm organizations in Western Canada are getting into politics. John A. Maharg, President of the Saskatchewan Grain Growers, has accepted the nomination for the Federal riding of Moose Jaw, as the Grain Growers' candidate. President R. C. Henders, of Manitoba, has been in the field for some time as Independent candidate in Macdonald, Man. Both these men are absolutely independent, straight, and impelled by high ideals of public service. In Ontario, E. C. Drury, of Barrie, is the Liberal nominee for one of the Simcoes. That these men will exert a big influence on legislation if they get elected, will go without saying. That all leaders of farm organizations should aspire to legislative service is not quite so clearly to be desired.

In the local Legislatures, the Political Equality League, similar to the organization which elected a whole ticket in North Dakota, has already elected two representatives in Alberta. One of these was Mrs. McKenny, of Claresholm, her opponent being a Liberal. In Saskatchewan, there are eight candidates of the non-partisan league.

While getting into the Legislatures may be advantageous from the farm organization standpoint, history has not taught that any great good has resulted to agriculture or agricultural organizations by having its candidates elected to the Legislative halls. In the end it has weakened the cause. How the Dakota experiment will work out is interesting.

AGRICULTURE AND TRADE ETHICS

A FUNDAMENTAL difference exists between governmental assistance to agriculture, and to trade. The Department of Trade and Commerce issues weekly reports for the benefit of traders and manufacturers. A glance at these reports shows that the whole tenor of the publication is to extend the business of individual traders and manufacturers by giving them information about prospective sales and outside demands. A Minister has charge of this department. It is his particular business to keep traders informed and their work facilitated. On the other hand publications are sent out regularly by the Agricultural Department. But instead of these being primarily charged with delivery and sale of farm productions information they are loaded with ways and means to increase production. And there we have the whole story of the difference. What agriculture wants to-day, and what this war is bringing out, is a greater enthusiasm among the national business heads of our Government for the marketing of farm products.

It is useless to argue its impossibility on the count of over-production. The same forces that regulate the ups and downs of prices made by supply and demand will still be operative. The main point is that what we produce is then made into real wealth and the producer's end subjected to less ruinous fluctuations.

FARM HISTORY IS BEING MADE.

A HOLSTEIN six-months calf sold in Massachusetts for $53,200.

A Grain Commission appointed by a Federal Government has leading grain growers on the board.

A Food Controller for Canada now works hand in hand with Hoover, the U.S. Food Controller.

—Photo by the Editor.

Range Sheep near Baldur, Man. Wolf hounds are used to fight the coyotes.

TAKING HIS MEASURE FOR BEEF STEAK.

—McConnell in the *Toronto News.*

Hon. W. J. Hanna is Canada's Food Controller.

The farmer in the U.S. is exempt from overseas service.

The British, Italian and French Governments are at last buying war horses in Canada.

Old implements at auction sales have been selling for almost the prices of new ones.

Ontario has sold 270,000 lbs. of wool through its co-operative grading scheme for an average of 63 cents a lb.

The British Government calls for 3,000,000 new acres of grain in 1918 and they are planning for it now.

The ignorance of many urban dwellers who didn't know a Shropshire from a Wyandotte is being broken up.

There will be more joy in many a city home over the first potato that blossoms than over the ninety and nine they wasted in years gone by.

There were 341,500 acres of buckwheat in Canada in 1916, which yielded 5,976,000 bushels. This year ought to see every possible late acre into this crop.

Wheat at $3, pork at $18, beef at $12, eggs at 45 cents, butter at 50 cents, cheese at 21 cents, and whole milk at $2 per 8-gal. can, write history for our children's children.

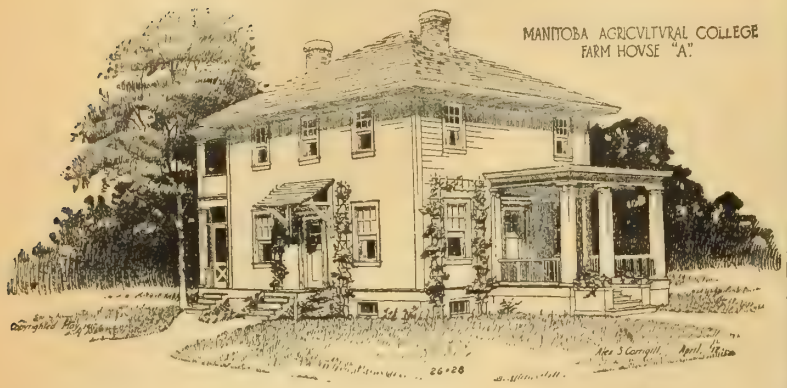
The United Farms of Ontario made a turnover of half a million dollars' worth of business the first five months of the year. This was done at an operating cost of less than two per cent. What Ontario farmers need more than anything else is more backbone to stand by their own concern when self-seeking opponents try trapping methods with a five-cent bait.

Premier Martin, of Saskatchewan, took office on what was practically independent ground. He cast Liberal traditions to the winds. His policies were made along utilitarian and popular lines. And the people apparently like that sort of thing.

Statesmanship heals over national wounds. Politics rips the wound afresh. Real service hides the fault, grandstand selfishness exploits the weakness. What a wealth of proverbs we can write on the Ottawa situation! And yet are these not our representatives?

Better Farm Homes

By PROFESSOR L. J. SMITH
Department of Agricultural Engineering, Manitoba, Agricultural College.



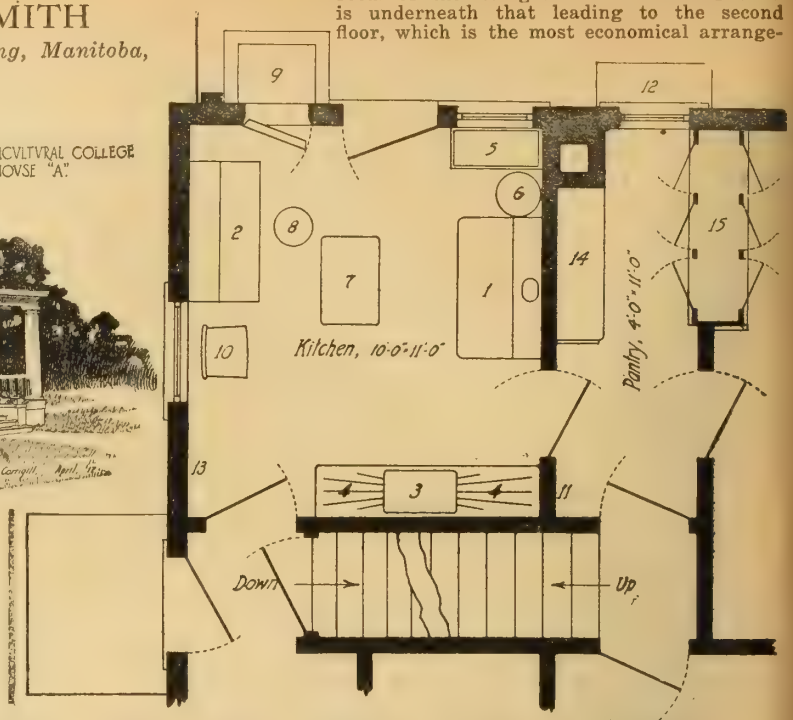
Late last summer the Manitoba Agricultural College in co-operation with the Manitoba Department of Agriculture, inaugurated a Better Farm Homes Competition, open to the farm women of the Province. It was hoped by this method to learn what type of home the housewife on the farm actually needed for our Western conditions; for who can tell what is necessary in the farm home better than the women whose life work is in these houses?

Though it was during the busy season, over one hundred and thirty women applied for cross-sectional drawing paper and directions for entering the competition. Sixty-three plans were submitted and, of these, six were selected by the judges as being the best; six equal prizes of $25.00 each in cutlery or silverware being given.

Complete working drawings and specifications of these prize plans are being prepared by a capable draftsman under the direction of the Department of Agricultural Engineering, which Department is also getting out a complete bill of material for each plan.

The Manitoba Agricultural College House Plan "A" is the first of the prize plans. It was submitted by Mrs. R. Robbins, of Glenella, Manitoba, and is the smallest of the houses, being only 26 x26 feet, yet the house contains four rooms on the first floor and four bed-rooms and a bathroom on the second floor.

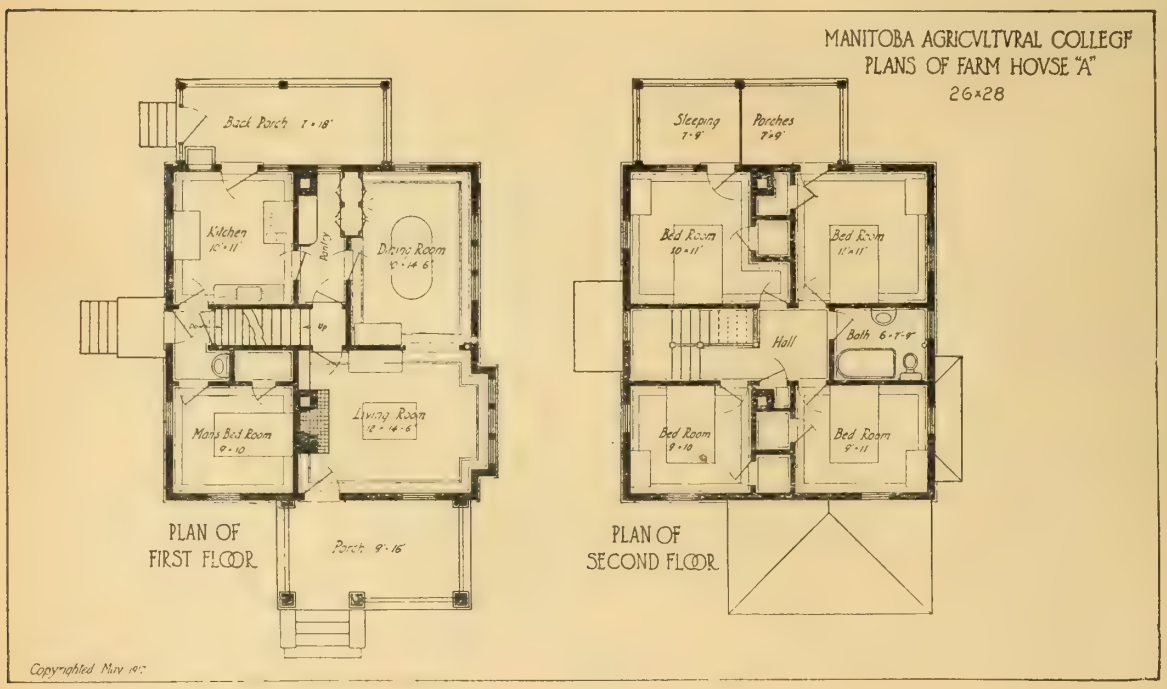
The exterior has a neat, compact appearance and represents a simple and pleasing type of construction, free from the ornamentation common to transient styles of architecture. Being nearly square, it has a hip roof. The front hall, so common to the city house, is missing. The stairs rise from the centre of the first floor being equally convenient to the kitchen, dining-room and living room. One can go upstairs from the kitchen without passing through the dining-room or the living room. The cellar stair is underneath that leading to the second floor, which is the most economical arrangement as regards the saving of space. By means of the side entrance, one can take ashes up from the cellar without tracking dirt through any part of the house or causing cold draughts by opening doors in winter, an important item in northern latitudes. The side door also makes possible another very desirable feature, namely, a man's bedroom entirely separate from the rest of the house. The little entry between the side door and the man's bedroom allows for a wash bowl and pegs for hanging working clothes. Where a man and his wife are employed on the farm, the arrangement here shown is very good. It is also of decided advantage when hired men are employed, as is so commonly the case in the Northwest where labor is scarce.



PLAN SHOWING LAYOUT OF KITCHEN

Copyrighted, May, 1917.

1. Range.
2. Cabinet.
3. Sink.
4. Drain board's
5. Fuel.
6. Hot water tank
7. Movable small table
8. Adjustable stool.
9. Refrigerator.
10. Chair.
11. Collapsible dinner wagon.
12. Drop shelf.
13. Brooms.
14. Shelves.
15. Cupboard.



By the arrangement shown here the second floor of the house is as private as in any city home. The long back porch is screened in and is large enough to be used as a dining-room in the summer. Why not eat outdoors where it is cool, on the farm as well as at a summer cottage at some watering place?

There is no waste hall space on the second floor. The feature on this floor is that separate sleeping porches are provided for two bedrooms. The sleeping porch is

one of the latest, but one of the most important of the modern improvements of the home, and one whose value will be appreciated only with the coming years.

The detailed kitchen layout will be of interest to the housewife. The built-in ice box saves kitchen space, and, being on the porch, is filled outside, thus avoiding the extra dirt and confusion in the kitchen, as well as doing away with ice in cold weather. The sink is convenient to the pantry. By means of the drop shelf food and dishes in the pantry can be conveniently passed out of the window for use on the porch table in the summer.

The back porch would be better eight feet wide; in fact, the house would possibly be better a little larger, but the evident aim of Mrs. Robbins' plan was to get as much as possible in as little space as possible, and, since the demand in the majority of cases from farmers is for a small house, it was not thought wise to make this plan larger.

The basement allows for coal, wood, fruit and vegetable storage, and for a dairy and laundry. There is also space for lines for drying clothes in winter. The cistern is placed below the basement floor away from the frost. By doing away with the large galvanized iron basement tank, so commonly used in the Northwest, for rain water storage, more basement space is provided.

Anyone who attempts to plan an ideal house will soon come to the conclusion that it is impossible to get all the desirable features in a limited amount of space. One thing crowds out another. This is especially true of the small home. The smaller it is, the harder it is to plan so as to get what is wanted. So with this House Plan "A." It is not perfect; but the writer has seen few plans adapted to farm conditions that have made such good use of the limited space and incorporated as many good ideas as are to be found in this house.

Working drawings, showing front and two side elevations, sectional elevation, basement plan, exterior and interior details, (6 sheets 14x24), together with specifications and bill of material can be had by writing the Department of Agricultural Engineering, Manitoba Agricultural College, Winnipeg. This material is sold at a nominal price with no intention of securing a profit, but to cover the cost of the reproduction of individual copies. The cost to applicants residing in Manitoba is $3.00, and for those residing elsewhere $5.00. Applicants, when sending for this material, should allow plenty of time for the getting out of copies of the specifications and bills of material.

A Forum of Farm Editors

Value of an Education

"A careful analysis was made, by the United States Department of Agriculture, of the incomes of corn belt farmers who had no schooling, those who went to common school, those who went to high school and those who went to college. Each day spent in the grade schools proved to be worth $1.16; each day in the high schools, $17.09 additional, and each day in college, $12.45 further additional. In other words, the total value of a common school education was $1,850; of a common school and high school education, $15,500, and of a common school, high school and college education, $25,000. These figures are the average of all those investigated by the Government.—*Wallace's Farmer*, Iowa, US.

Cold Storage Legitimate

"Food speculation is possible because the public is ignorant regarding the quantities of food, of flour, of meat, of eggs and of butter, as well as of raw food products that are stored and held out of sight. In fact, speculation is very largely based on the ignorance of the individual as to quantity of these products that are quietly stored away and an artificial scarcity of these food commodities created. It must not be understood that the storing of these commodities is in any way illegitimate. It is, in fact, a very necessary factor in maintaining a uniform food supply the year round and the public must be prepared to pay for such storage and losses in storage. But this offers the opportunity for speculation."—Western Farmers' *Advocate*, Winnipeg.

Advocates Legal Restraint

In spite of the agitation in favor of the preservation of calves, enormous numbers are killed daily in Canada. Discussion and resolutions condemning this waste have done but little good; there is now only one effective course open—legislation making it unlawful.

If these animals were allowed to mature, the quantity of meat would be about trebled, it would be quite as nutritious and palatable with much less waste proportionately. The Government is very careful to make and enforce laws protecting the wild animals, why can not the preservation of the calf, which is of so much greater value, be dealt with?—*Canadian Home Journal*, Toronto.

Livestock Prices

High prices are being paid all over the world just now for live stock, and these high prices for the most part are being obtained at auction sales.

The auction ring is undoubtedly the best guide a beginner in live stock can follow. It furnishes sure indication of the popularity and progress of a given breed, and shows, to a certain extent, whether animals of a certain type are a paying proposition to their owners.

The live stock situation at the present time is in a flourishing condition and will likely remain so for several years, as when the great war is over there will be a rush to replenish the depleted herds of Europe, and this demand cannot affect the live stock industry adversely.—*Farm and Ranch Review*, Calgary.

Farmers in Politics

The great farmers' organizations have decided it to be unwise officially for them to enter the political field and nominate candidates. They have, however, encouraged individual members and farmers in every federal constituency to make sure that there is a candidate nominated who will uphold the farmers' platform. Last week the grain growers of the federal constituency of Moose Jaw unanimously selected as their candidate J. A. Maharg, president of the Saskatchewan Grain Growers' Association. R. C. Henders, president of the Manitoba Grain Growers' Association, has for some time been the farmers' Independent candidate in the federal constituency of Macdonald, Man. Both these men have long records of outstanding service in the cause of the organized farmers. They come into the field absolutely independent of party alliances and free to advocate and support the rights of the farmers of this country.—*Grain Growers' Guide*, Winnipeg.

Action Ill-advised

No reason is given by the railways why it is necessary to increase the rates on pedigreed stock at this time. Without the Freight Association has some good and sufficient reasons for discontinuing an arrangement that has been in force for many years, and which has admittedly been of great benefit to the country at large and indirectly to the railways themselves, those who control that organization have not shown much wisdom in cancelling the half-rate plan at this juncture. Their action at this time will be taken by breeders and farmers generally as a strong argument for nationalizing all railways and bringing them altogether under government control and management.—*Canadian Farm*, Toronto.

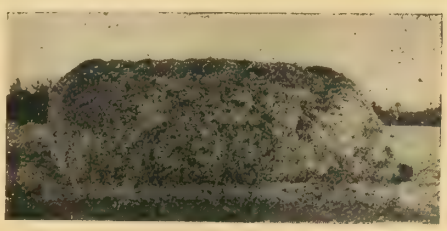


Photo by Mrs. John J. Funk, Saskatchewan.

Wild hay or prairie wool as it is commonly called in Western Canada. The possessor of such a stack will be counted one of the fortunate ones this year.

Farming Experience Needed

The more one knows about farming and the more one sees of the work the farmer is doing in this Province and in this Dominion, the more he appreciates the farmer's effort. Would that every city dweller could be privileged to see what is being done! Country and city would be brought closer together. —*Farmer's Advocate*, London.

Good Roads Essential

Above all every farmer should take an interest on the roads in his township and county. Good roads add 10 to 25 per cent. to the value of property. They are marks of progress. They stimulate to greater effort. They mean dollars and cents in marketing. They add pleasure to life and will be in the future even more essential than now for we are just at the beginning of motor car and motor truck developments. Remember that good roads are made for the farmer not for the city auto tourists, and in construction build according to the traffic which the road will be called upon to bear. This will not mean expensive construction on most roads, but build well and maintain.—*Farmers' Advocate*, London.

Sensible Talk

George W. Armstrong, president of a large cattle company in Oklahoma, says in a letter to Senator Gore:

The neswpapers report that you have introduced a bill to prohibit the marketing of cows and immature calves, for the purpose of stimulating the production of cattle. This measure if adopted will have the opposite effect, because no man can safely afford to stock his range to its normal capacity if he is denied the right to reduce his herd if abnormal conditions make it necessary. It is often necessary to sell a part of a herd in order to save the balance, because of the financial situation of the owner, or his feed, water or pasture conditions.

The production of beef can and will be increased only by making the business attractive and profitable, and not by restricting the liberty of the breeder and adding to the risk of a business that in its very nature is extremely hazardous. No breeder will sell his cows or his calves if it is profitable to keep them.

Sensible talk, isn't it. The Government can run a losing business, but the individual cannot. However, we don't think Uncle Sam wants to go into the business of beef production. He will let the old hands do it and content himself with seeing that prices are fair. Then calves that ought to be raised will be raised.

More beef calves are being kept now than was the case a few years ago. On January first there were 40,849,000 beef cattle in this country. On the same date in 1914 there were only 35,855,000 head.—*Country Gentleman*, Philadelphia.

City Farmers

We are inclined to believe they will have a better understanding of the value of a bushel of potatoes, when they are through with their experience, than they had before. Further, raising food largely by hand, and by a few city people, is not going to make any serious inroads into the farmer's income.

It is well, too, to let the factory hand who desires to raise farm crops have opportunity to dissipate his spell of agricultural enthusiasm. Give him a chance to have an inkling, at least, of what must be done to raise a crop of potatoes.—*Hoard's Dairyman*, Wisconsin, U.S.

A big barn on a big livestock farm in Ontario where the next big demonstration of tractors is to be held in September. The farm barns of Oak Park Farm near Brantford. See article on page 17 of this issue.

Conscription of Wealth

The only practicable conscription of wealth is the income tax, as it is used in the United Kingdom and the United States. To conscript capital would, it seemed, tend to bring the people and the government to starvation and ruin. If, for example, you took away a man's cattle, he would cease to produce cheese or butter. If you took away his securities or investments or land, you would be obliged to provide a state management as capable as his or his wealth would become worthless in your hands.—*Weekly Sun*, Toronto.

Prices of Farm Implements

Probably many a purchase of farm implements has been postponed, in the hope that prices would be lowered before the necessity for their use became acute. All evidences point to such practice as dangerous procrastination. It is doubtful if any industry is more disturbed over raw material supplies than the farm implement manufacturers. Fortunately the railroads have been wise enough to give preference to some needed shipments to such factories, but in the larger way materials for implements needed next fall and the coming spring must be bought and shipped to manufacturers. From a somewhat general survey of the situation we see no reason to anticipate a lower range of prices for farm implements. We do fear, however, difficulty in obtaining them in a few months, if purchases are left to the last minute.—*The Breeders' Gazette*, Chicago.

Boycotting Farmers' Companies

A number of farmers complain that when securing mortgage loans they are not allowed to place the insurance on their buildings through farmers' mutual fire insurance companies. This has been a source of friction and dissatisfaction for some time. In the past it was maintained that these farmers' mutual fire insurance companies were not reliable, but experience has proven that the most of them at least are in a very sound position. Not all the mortgage companies refuse policies in the farmers' mutual companies, but some of them still have regulations against accepting such insurance. The remedy for this is in the hands of the farmers themselves. When borrowing money on a mortgage they can stipulate where the fire insurance is to be placed. If their business is desirable, and the farmers' mutual company in which they wish to insure is sound, vey few, if any, mortgage companies will reject their business: If it is rejected it can be placed elsewhere.—*Grain Growers' Guide*, Winnipeg.

A Dangerous Feature

The most dangerous feature of the proposed new highways bill before the Dominion Government is that it will tend to still further centralize the control of our highways and remove the control of taxation more and more from the hands of the rural taxpayer. Such a course will lead inevitably to extravagance and waste in road construction, and in all probability will fix more firmly upon us the curse of indirect taxation. This tendency to centralize control of expenditures is one of the most dangerous tendencies of the times, and a tendency against which every taxpayer should protest vigorously.—*Farm and Dairy*, Ontario.

Getting Viewpoints

The first conference between city men and farmers was held in the Laurentian Club Rooms, Ottawa, June 21st, and it turned out quite satisfactory. There were present about thirty farmers representing the agricultural interests of Eastern Ontario between Kingston and Montreal, who discussed quite freely and frankly with the business men of our city their problems. They pointed out that increased production was practiaclly impossible unless more and efficient labor was available, with the result that our business men are to-day a little more alive to the real seriousness of the crisis and will lend a helping hand by providing what help they can during the harvesting season; one thing certain is the conference will lead to a more sympathetic feeling between the two classes, for banker and manufacturer met farmer and stock breeder at the same table and tried to work out their problems in a way that would result in the interests of both classes being advanced.—*Ottawa Farm Journal*, Ottawa.

Farmers Should Advertise

Advertising pays the manufacturer, the wholesaler merchant, as well as the retail merchant. It pays the business man, no matter what line of goods he carries. It pays the farmer and poultry raiser just as well as the business man—if properly managed.

If you have good stock that has merit, don't hesitate to let others know about it. There are others who are just as eager to buy as you are to sell, but they will not buy of you unless you let them know what you have to sell.

Tell some of the merits of your stock this month and something different next month, or tell about the same thing in a different way. A business bringing advertisement must interest the people. As you cannot interest all of the people all the time, you must endeavor to interest some of the people all the time. What interests some to-day may not interest others, but by changing your advertisement, you may interest next month the very people that you missed last month.—*Maritime Farmer*, New Brunswick.

Guaranteed Prices

If the farmers respond to the urgence of the government, it is no more than just that they should be protected. A crop produced at the present high cost of fertilizer and labor, if thrown upon a congested market, would ruin many thousands of farmers.—*Farm Journal*, Philadelphia, Pa.

Milk Repartee

We remember once listening to a dairy expert lecturing to farmers with a view to getting them to erect pasteurising plant in their creamery, and how a member of committee led a victorious opposition to the proposal by saying: "Youse have all heard the gentleman from Dublin. I ask youse is he not talking nonsense? Could any living creature exist after having passed through them separators?" A bacteriological exposition was not immediately possible, and the pasteurising plant was not erected. Well, it is that kind of thing the advocates of a pure milk supply are up against. It goes deeper than municipal authority or the neglect of officials or sanitary officers. It has its roots in the system of education in Ireland, and until that is improved and has first-class brains put into it the other evil results will follow. Anyhow, we wish Professor Houston well with his crusade for pure milk. If he can get enough improvements in methods to save some of the children who otherwise die so numerously in Dublin he will have deserved our gratitude. —*Irish Homestead*, Dublin, Ireland.

The Water Cure

A Swedish farmer, who lived on his wheat farm in Minnesota, was taken ill and his wife telephoned the doctor.

"If you have a thermometer," answered the physician, "take his temperature. I will be out and see him presently."

An hour or so later when the doctor drove up, the woman met him at the door.

"How is he?" asked the doctor.

"Vell," said she, "I bane put the barometer on him like you tell me, and it say 'Very dry,' so I give him a pitcher of water to drink, and now he ban gone back to vork."

An ingenious Ontario lad who is saving his energies in an unique way.

God's Green Country: By ETHEL M. CHAPMAN

A Tale of the Ups and Downs of Country Life

CHAPTER XI.

"These laid the world away; poured out the red
Sweet wine of youth; gave up the years to be
Of work and joy, and that unhoped serene
That men call age; and those who would have been
Their sons, they gave, their immortality."
—Rupert Brooke.

THERE was no sense of loss for Billy in the days that followed Miss Evison's leaving the neighborhood — you can't lose a thing you never had. But back of the hardest loss there is always the joy of possession to remember, a comforting compensation compared with the shamefaced poverty of never having had what you most wanted. Removed from the fascination of her presence and reviewing one incident after another, there was only one theory to accept. It had been the affair of a moment for her, a diversion acceptable for the want of something better; now it was over, and she wanted to be free from any further obligation. Still, it was disconcerting to an agricultural expert, holding forth late in some village hall, while the fire in the boxstove burned low and the frost patterns crept over the steamy window panes, to have his efforts to inspire a sleepy audience with the need of greater production, suddenly sidetracked by a vision of a regal little figure in some palm-bordered ball-room, brilliant and excited and restless as a beautiful moth that has found the light.

He had now considerable free time in the evenings which might be turned to good account in his work, but people had become so accustomed to finding the office locked at night, that they had stopped calling, and it would be difficult to win back their interest. With notes of Miss Evison's social engagements in town constantly finding their way into the local papers, he could scarcely advertise that henceforth his evenings would be at the service of the community.

But it was not the blow of Miss Evison's dismissal, nor dissatisfaction with his work which turned his affairs in another direction where things like these don't count for much. It was the first winter of the war and like many another young man absorbed in the peaceful industries of the green country, the Representative had had some serious debates with himself. The men who directed his work, peering through the chaos of the country's general unpreparedness to probable starvation ahead, kept the wires from headquarters hot, suggesting plans for growing bigger crops in the district, leaving it with the Representative to put the plans before the people. This they considered his best service just them. At the same time newspapers were bringing home reports that made it hard for men to go on tilling their fields even to feed the men who were fighting, or the people whose homes had been outraged by an invading army.

Most of these steady, thinking young men with ambitions in other directions, made no attempt to explain the motives which led them to put away all the things they cared for to enter a new life as hateful as it was strange to them. It might have been just the chivalry that guided their every-day conduct in less spectacular ways, or the more plebeian but equally unselfish spirit of doing an unpleasant but necessary thing because someone had to do it; perhaps the comradeship with others who were making the sacrifice had some part. Anyway, without discussion or ceremony, the Representative gave up his plans for the community and the possibilities of the place on the hill, which of course didn't mean anything now, anyway, and joined the county battalion. It would have been harder if his mother had been living, but as things were, he reasoned it wouldn't matter much to anyone but Jean, and she had developed a splendid faculty for taking care of herself. It was difficult to associate the easy, self-assured young varsity student with the shy little school-teacher who in the years when she felt the loss of her mother most, had cried to him over problems on which he was helplessly ignorant. His unfailing solution was to send her to Ruth Macdonald for advice, until she acquired the habit of going herself, and didn't need his help any more. In one way however Jean remained unchanged from the little girl who had trotted after him everywhere with the faithfulness of a little spaniel. He had taught her to climb trees, and skate, and swim, and though naturally timid and afraid of the water, she would float with him, perfectly confident, out to the deepest places. When, nervous and ill with the loneliness of her first school, she had sent for him, he had only to gather her up like the child she was, and she went right to sleep, secure and quiet in the strength and gentleness of his great body. With all her admirable, twentieth century young woman's independence, he knew that the hero worship of the little sister remained the same, and at the thought of leaving her he was painfully conscious of his neglect since his interests and his holidays had been given so wholly to Miss Evison.

It was when he returned from the ceremony of putting on his uniform that this reproach seemed verified. The mail had brought a note from Ruth Macdonald saying "Jean has just been sent home for a nerve rest. I believe the trouble is mostly loneliness. If you could be with her for a while you might tide it over."

The stenographer covertly sizing up the Representative, with the popular feminine admiration for a uniform wondered if his courage had suddenly failed him that he went so white. The idea wasn't convincing however. The afternoon mail offered a more interesting explanation. With amazing constructive genius she reported that Miss Evison had written offering to take him back—"and him signed up," she lamented tragically. The theory gained weight, but travelled faster, when Billy was seen taking the first train for the city.

Even Ruth became a victim to circumstantial evidence. The next day she found Jean alone, and troubled.

"Billy's enlisted," she shuddered.

Ruth experienced all the cold terror that the news has given women the world over when the men they cared about joined the army. She didn't say anything,—people are so sick of the glib platitudes, about the glory of sacrifice, when they can't drive from their imaginations the actual torture of soul and body. Besides it never mattered whether Ruth put her sympathy into words or not. It came to you from the understanding kindness in her eyes, the quick warm pressure of her hands, and a thousand little thoughtfulnesses which anticipated your needs. Her concern was perhaps too evident, for Jean hurried on to explain.

"Oh it isn't just that he's going. I was expecting that, but everyone is saying he's going broken-hearted. Look—"

She indicated a paragraph in the morning paper which stated that Mr. and Mrs. Evison announced the marriage of their daughter Marjorie Angela to Dr. Knight.

Then Billy came in. He didn't look broken-hearted. In fact, for a man who had just lost the love of a life time he seemed in a much too healthy frame of mind to have any sentiment at all. As a matter of fact of course he hadn't seen the little announcement; he had some time ago stopped reading the social columns where Miss Evison's name figured, but with sisterly consideration Jean left the paper in his room where he could read it and have his battle out by himself. Ruth shared this consideration. When the evening papers, crowded with the latest draught of casualties found space to describe at length the flowers and dresses at some tea given in honor of "the popular Miss Evison," the girls so obviously avoided any comment that Billy rather wondered if he shouldn't draw their attention to the fact that Miss Evison would be charming indeed in the gown of some imported-sounding stuff with pearls and lilies of the valley. Such wooden creatures men can be, where a little tragedy would seem the appropriate thing.

Jean's nerves were soon restored to smooth running order, for which the doctor gave no small share of credit to Ruth's efforts to keep her out of doors. The county battalion was training near the city and every evening Billy could get off the three of them would tramp out in moccasins and general Indian accoutrement to the edge of the city, to toboggan down a snow-crusted hill, or to skate for miles down some winding creek straggling through spooky cedar swamps and open

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True to Life

I am a student of the —— Agricultural College of the year 1919 and having read the FARMER'S MAGAZINE in the College Library here, I have taken a great liking to it, and to the serial story "God's Green Country." It is so real and so true to conditions in my own life. Both the hard-hearted father and the writer must have been students at —— College, or else college conditions could not be so well portrayed. Consider me a constant reader.

M. P. D.

moonlit fields. It was an invigorating change from the theatres and cafes that had been Billy's late amusement haunts —not that he had buried all these in the ashes of the past, but they seemed to have their purpose in catering to the needs of people who wanted their pleasures ready-made for them. His sister, by chance or design, frequently added other friends to their party, and he found himself, either by chance or design taking Ruth farther up the ice than anyone else cared to go.

Of course it was natural enough; no other girl could skate so far without tiring; no other girl could abandon herself so wholly to the joy of a sport and still keep about her a sort of reverence for it. And when he watched her from a distance, slim, buoyant, wholly alive, taking the ice like a sail before a breeze, and remembered the unconscious glow in her friendly eyes as he had skated with her, he realized that it was rather gratifying to a man's pride to know that while he was so unnecessary to her in a material way, she still cared to have him around. That there was something strained underneath her casual friendliness he knew, and wondered; he was beginning to find it hard to be perfectly natural himself. But when he took her home one night, and very soberly asked if he might come in and talk to her she said "It's pretty late."

He wasn't surprised. He felt that it was pretty late. He had been a long time awakening. No woman would value very highly the interest of a man supposedly trying to gather himself together from the blow of his ideal woman's engagement to another man and she was not the type of girl likely to accept compromise. The next day the battalion moved to a farther camp.

A few people, dependent entirely upon statistics for their information, have believed that the farming districts have not been touched by the war, that the great green country has smiled peacefully through it all, hoping only that the allies might have favorable weather for their task. Actual investigation now shows few homes that are not suffering the anxiety of waiting, or the grief of loss. Many of the first to go from the cities had been nurtured in the austere discipline of some rocky farm whose meagre income did not appeal to an ambitious young man, or, if the family was large, it behooved some of them to move out and leave a delving-ground for the rest. Nor was the change to military life quite so hard for those who had rubbed against the world in many places, as for the brothers at home for whom the thought of even a training camp had a homesick apprehension.

A boy from a farm back among the hills occasionally dropped into a back seat at the village recruiting meetings. He heard unmoved the argument that he would be handsome in khaki, and listened with cynical but well-concealed amusement to girls who sang, with more zeal for, than appreciation of the cause. "We don't want to lose you but we think you ought to go." Then one night the officer made a sincere and rather strong appeal. He didn't minimize the hardships so far as he knew them, and he described the brutalized misery of the invaded countries as graphically as a good imagination could picture it. The boy from the farm listened with little outward sign of emotion, but a battle was going on inside. He didn't go to the platform with the few others who responded to the appeal: he had never stood before a crowd in his life. He was not used to crowds; all his life had been spent in the quiet of the fields, and the long hours of constant, necessary toil had left little time for exploring other places. He didn't know the ways of men in companies, and it would have taken more courage than he possessed to stand up before an audience and take their approval. He waited at the door until the officer came out,—and he joined the army. Then he went home.

In the kitchen the fire burned low. A few geraniums had been moved to the table, that they might not freeze against the window-panes. Beside them lay the day's paper and his father's glasses; the father and mother had acquired a habit of discussing the war news long after he went to bed at night, and he had often wondered why they should be so interested; he knew now. Always on the rare occasions when he was out late, he came in quietly, took off his shoes and went directly upstairs, but tonight he sat on the wood-box, staring at the ashy fire and listening to the regular breathing in the little bedroom off the kitchen. There was only one of these comfortable, sleepy sounds to-night; his mother was awake. After all the sleepless nights she had spent over the family it was hard to think of the vigils she would keep when he had gone. It was hard to think of leaving them with the work of the farm; they were getting old and the mortgage was still hanging over them. It meant hard work and careful living to keep afloat even with a young man's steady work. They couldn't afford to hire help even if the help were available, and he could see his father, in the evenings of the next harvest, crippling over the fields, footsore and bent, to bring the cows home for milking. They would be standing at the bars, in the dusk, those cows, lowing and nervous from waiting, as though they wondered why the work was never done. And his mother would come out with the pails, and on into the dark there would be no sound but the regular flow of the milk streams, and the contented breathing of the animals. The aching loneliness of it! And he, the last of their sons who had hoped to make things easier, to some day fit up the other house on the place and bring home a girl who would be a daughter to them,—after all they had hoped of him, where would he be while they were trying to do his work? Lying out under the sky somewhere, maybe, as powerless to ever help them again, as though he had never been. Yet the recruiting officer had said—and the arguments came back as logical and appealing as when he had placed them before an enthused audience. But to the boy trying to do the right thing, the problem was cruelly complicated.

Then his mother called quietly.

"There's nothing wrong, Jim?"

"No. Did I wake you coming in?"

"I was awake. I guess thinking about the boys, lying out, made me anxious. It's good to know you're in."

She left a good opening for the argument that he couldn't rest at home while, the others were "lying out," but knowing her anxiety he hadn't the heart. He would tell her in the morning, and she would accept it as other mothers had done, as motherhood has always accepted things that paid little for its sacrifice. Maybe she would even be proud to be the mother of this man-child who was willing to suffer the inquisition of warfare, with a motive as chivalrous as those which prompted old-time knights to historic adventures, but in her secret moments, remembering the poignant joy of the hour when she had heard his first cry, and felt the helpless, clinging little body groping toward her and snuggling down safe in the warmth of a protecting presence, she would know that to her, he would always be the little child who needed her, and like thousands of other mothers she would cry out fearfully and rebelliously, "God, why should these things be?"

It remained with people less personally concerned to express the fitting public appreciation of the county battalion. Mrs. Evison became the leader of a very popular suburban "khaki club," which had neither the time nor the skill to do much sewing or knitting, but by giving a series of fêtes and teas and musicales, the ladies raised funds to present the battalion with a set of colors. The presentation was to be made at a garden party on the Evison grounds as soon as the shrubbery bloomed, and it was to be a rather elaborate affair. Some half-dozen more or less prominent men were invited up from the city to speak. The battalion would be there in full strength. A number of Marjorie's dearest girl friends would come out from town to supply the beauty and charm appropriate to the occasion, and they would wear white dresses with red crosses on the sleeves and a nurse's head kerchief. There would be a military band and pavilion for dancing. The speakers' platform would be bright with flags and bunting and Chinese lantern footlights, with reserved seats in front for the mothers, and as president of the khaki club, Mrs. Evison would say a few words to them herself.

When the time arrived she did not fail them. People had come in crowds, the presentation had passed off with due ceremony and applause, and her soul was so filled with the perfection of her plans that she wanted to pour out the balm of her appreciation on those women who were "so gloriously sending their sons to fight for the empire and liberty." She was very charming as she stood surrounded by the flags of the allies and a few hot house palms. To make herself beautiful for them she had even risked wearing her loveliest and lowest evening gown, with just the sheerest scarf falling from a bare shoulder, as a protection from the night air. And standing there like a goddess of liberty, she told them that she wished she had a dozen sons to give. She said further that she "knew these women who were so splendidly giving their boys would do still more. The food situation was serious, but what women in other countries had done the splendid women on Canadian farms would do. Belgian and French and German and even English women were sowing the seed and gathering the harvest this year; she knew that the dear mothers from the farms who had so unselfishly given their sons would not see them starve in the trenches, that they would put their shoulders to the wheel as their pioneer foremothers had done, and go into the fields if necessary, to the last one of them."

When she had finished, people from somewhere applauded, the band added its

Continued on page 48.

A Dairy Farm in Brant: By TIP O'NEILL

How a Business Man is Farming on Oak Park Farm With Holsteins, Shropshires, Standard-Breds, Yorkshires and Poultry

WHEN the call was sounded "back to the land," W. G. Bailey stopped to listen. For thirty and three years he had been engaged in the milling business in the City of Hamilton, but the cry of the nation, bidding her sons experienced in agriculture to return and speed the plow and drill, was too much to endure, therefore, in the fall of 1913, Mr. Bailey, having disposed of his milling interests in the "Ambitious" city, took up his abode for the future on what is known to-day as "Oak Park Stock Farm," in the Township of Brantford, in the County of Brant.

Having travelled through the greater part of the United States and the Canadian West, and feeling that the land was the place for him, Mr. Bailey decided that no finer tract of soil could be found on the continent, suitable to his particular tastes, than the very spot upon which he is to-day located. The soil is in itself splendid by nature, and its owner sees to it that it is kept well fertilized and in the proper condition to receive the seed.

But Mr. Bailey does not grow grain to sell. He was at first hand informed, and has since learned from practical experience, that there is money in the dairy herd. As a favorite breed, he has chosen the Holstein-Friesian, the "black and white" type, which he claims to be the best money-makers on the market to-day, in so far as milk and butter-fat are concerned. It is his firm opinion that the Holstein-Friesian herd are the leaders in the dairy industry, wherever such industry has been established. When Mr. Bailey moved from Hamilton to his extensive farm, consisting of 540 acres, he did not run wildly hither and thither, and buy up every Holstein in sight; but he attended the various sales in the community and elsewhere, and also made several private purchases, exercising every precaution in his buying, that he might procure the best of the type available in the present age.

THE HOLSTEIN HERD.

The next matter which he took into consideration was the accommodation for his herd. W. G. Bailey is one of those men who pride themselves in having everything "up to the handle," and, therefore, at once set to work to have the already capacious stabling remodelled to some extent, and arranged that everything be at the workman's "finger tips," realizing that this too was an all important feature in the dairy or other industry. It is a pleasure to take a trip to "Oak Park Stock Farm," and roam about the buildings and yards. Everything is so neat and so clean; even the "hog department" is a marvel for cleanliness. However, we are dealing at the moment with the Holstein herd. The stabling as it stands to-day measures 130 x 60 feet, with finished stalls and concrete floors throughout. The latter are swept as clean as the pavements of the city, and although Mr. Bailey has had signs posted in the most conspicuous places, advising the visitor that he must not smoke around the buildings, the writer ventures to say, that a match might be

A splendid looking animal, King Sylvia Keyes, brother of the world's greatest dairy cow, May Echo Sylvia, wtih 1005 lbs. milk in 7 days. Owned at Oak Park Farm.

thrown most anywhere on the stabling floor without any serious results following, as there is not a straw in sight to become ignited.

Entering the cattle-stable from the western end, one strikes the long alleyway, with a box-stall on the one immediate side, and rows of cow stalls on the other. Caged in this box-stall is a bull; one of the most excellent type, and is known to the Holstein-Friesian breeding world as "King Sylvia Keyes," a brother to the world's greatest dairy cow, "May Echo Sylvia," who holds a record of 1,005 pounds of milk in seven days. This bull is but fifteen months of age, but is a beauty, and promises to be a real record-breaker in himself, in the days yet to come. Passing from this stall, you come to the milk-room, which is isolated and air-tight, and up-to-date in every respect. Not one particle of the common odor of the stable is in evidence. In this milk-room everything is at hand; clean benches, big vats of clear running water, and the cream separator which, like the root-pulper, the grain grinder and the cutting-box, and several other articles of minor importance, is run by a small electric motor. In this room is also found a set of weigh-scales, which are in common use twice each day in the year, as every pound of milk which comes from the fine Holstein-Friesian herd is weighed as it passes through this department. Farther down the alley-way the visitor comes to another box-stall in which is found "Lakeview Dutchland Hengerveld, 2nd," the Grand Champion Holstein-Friesian bull at the Canadian National Exhibition and the Western Fair in 1916, and whose sister, the three-year-old Canadian Champion, holds a record of 34.66 pounds of butter in seven days. This bull is but in his prime, being scarcely four years of age; he is of tremendous size, as his weight of 2,700 pounds would indicate, but he is as quiet and as modest as a little lamb. Mr. Bailey is the pround owner of the mother of this animal, a magnificent specimen of cow, holding a record of 30 pounds of butter in seven days. Both of the bulls owned by Mr. Bailey are from the leading milking strains, and no man on earth could convince him to handle any other. While he does not confine these animals solely to home service, yet he does not attempt to cater to the trade. As the visitor moves along he finds an extraordinary bunch of Holstein-Friesian calves. Several of these calves are feeding from the cow. Their owner believes in turning two calves to the one cow, and finds that they do exceptionally well.

W. G. Bailey, of Oak Park, who finds farming good business.

KEEPS NO POOR PRODUCER.

Just at the present time when there is a great volume of discussion in behalf of the interests of the stock-breeders and farmers, on the subject of maintaining herds and flocks, Mr. Bailey does not withold his opinion. Prices of feed, in this and the other districts, have soared almost "to the regions beyond," and the breeder and farmer everywhere have been urged to discard those individuals that do not rise to the highest standard of production, so that it may be possible to make a margin of profit on every animal maintained in the herd. True, these are the anxious moments in the dairy industry, as well as in the other lines in the common walks of life, and Mr. Bailey is strongly in favor of selling such stock as is deemed advisable, possibly for various reasons, but he refuses under any circumstances to cut down the size of the herd to a point that is below the average. He believes in keeping every individual in the herd that shows anything like a good profit, and seeks to keep building up; he is inclined to laugh at those who have become panic-stricken, and sold indiscriminately just because feed is high, or because the neighbors were doing it.

W. G. Bailey has a grade of stock that the moment he sees fit to part with one, be it a bull, a cow or calf, almost imme-

diately it is gone, because he keeps nothing but the best, and the entire County of Brant, and the many breeders at points elsewhere, are aware of it. Mr. Bailey advises that the man in the dairy should by no means become alarmed, just because some agitator has an idea that the whole livestock industry is going to the wall. The milk from "Oak Park Stock Farm" is sold exclusively to the consumers of the City of Brantford.

To sum up: In the matter of breeding and feeding the Holstein-Friesian herd Mr. Bailey is of the opinion that the one cannot be separate from the other, as despite the breed of the animal, without the proper feed and nourishment, the dairy cow would be bound to make a sorry showing for the pail and for the owner's wallet.

OAK PARK FARM.

That the reader may clearly understand just what kind of a farm Oak Park is the following quotations may not be out of order. This season these are the crops: 75 acres of fall wheat, 85 acres of oats, 25 acres of barley, 35 acres of ensilage corn, and 10 acres of turnips and mangolds; besides 107 acres of hay, 75 acres of pasture land and 8 acres of potatoes. And the striking feature of it is, that these are all to be fed on the farm.

Besides, in the neighborhood of 60 head of choice cattle, the visitor proceeds to another stable, set apart by itself, and finds 18 well-bred and standard horses and brood mares. He goes from this place to another and finds 197 head of pure-bred Shropshire sheep. Mr. Bailey is, too, a great sheep fancier. During the time he has been the owner of "Oak Park Stock Farm" he has had the best of fortune with his flock, and they have netted him a handsome sum of money. He looks favorably upon the sheep-raising industry and sees a bright future before the sheep breeder, providing he breeds the "right kind." Mr. Bailey has sold a large number of sucking lambs this season, and has received the sum of $25 a head for every one. These have gone to various points in the United States and the Canadian West, to be used for breeding and exhibition purposes.

HOGS AND HENS

A hog-pen, with dimensions of 131 x 22 is situated between the horse stable and one of the sheep-barns. It is one and one-half storeys high; is well lighted and ventilated and equipped with every modern convenience. It will comfortably accommodate 130 swine. As to the breed of hogs, Mr. Bailey is a believer in the Yorkshire type, all pure-bred. The hog-pen is up to the mark all the way round. The floors of the passaage-ways are as clean as those of the other stables, as clean as the concrete floors in the average house-cellar. And not alone are the floors of the passage-ways clean, but the pen is kept clean throughout. The hogs are well supplied with bedding from the loft above. One particular striking feature as found in the yard behind the pen, is the fact of a small concrete "wallowing-tank," which is lowered about one foot in the ground, and serves the purpose of a "bath-tub" for the hog. Some might be inclined to jeer and say, "Imagine a hog taking a bath," nevertheless, it is a fact, and he who doubts is at perfect liberty to pay a visit to "Oak Park Stock Farm" and be convinced for himself. Mr. Bailey has a large number of hogs in stock at this time of writing, and realizes that he has a "living" fortune, in that part of the barnyard.

Large flocks of fowl of the White Orpington and Rhode Island Red type abound in the yards at "Oak Park Stock Farm." An incubator is not used in the hatching; this task is left to the old-time reliable mother hen, and she has reared over 250 healthy chicks already this season. Mr. Bailey believes that the poultry yard is an important part of agriculture to-day; he urges that every farmer keep some good fowl, and above all—attend to them— and he will find in them a profit.

Possibly one of the most outstanding features of the "Oak Park Stock Farm" is the water supply, which comes from a natural spring, a distance of 3,600 feet and is "never failing." A huge reserve tank holding 18,000 gallons stands in the yard, and supplies the dwelling, the open water-troughs and all the stables. The water is pumped by a hydraulic ram. Another feature is the lighting system. The magnificent dwelling and every solitary building on the farm is lighted with Hydro, and should anyone doubt the value of Hydro to the farmer a chat with W. G. Bailey might convince.

He sees a great future for the man on the land, not alone as a dairyman and as a sheep and hog raiser, but as a general all-round producer, that the nation may have bread. His advice to the young man is, to stay with the soil; Canada stands pre-eminent in the eyes of the world. The man on the land has a God-given duty to perform, and it is up to the sons of this domain, whose emblem, too, floats on the Western battlefront, and floats crowned with honor, upon which domain all eyes will have turned with greater significance than ever, immediately the great European struggle ceases, to turn to the plow and the drill. The lure of the city truly is great, but the lure of the soil is more pressing and gigantic still. The farmer is the independent man, the man with the flour-bin filled and to spare, and to-day, when the nation calls as never before for greater production in every line in connection with the land, Mr. Bailey urges that it is the supreme duty of every man who is unable to be on the battle-line, in the active defence of the highest principles of the Christian world, to turn his activities to the land, and hush the cry of a possible famine.

My Best Paying Items

How An Algoma Farmer Makes Farming Pay

By GEO. MACDONALD

YOU ask what are the best combinations of interest on a small farm to assure the owner a big yearly profit. I am going to relate to you my own experience with some figures in order to answer your question. I am located in the Algoma district, where we have as yet no creameries or cheese factories so that dairying as a business does not commend itself to us as much as it would to a person in older Ontario.

I keep six good grade Shorthorn cows of as good milking strain as I can get. I use pure-bred sires, trying thus to build up a better strain all the time. I milk all the cows and sell all our surplus butter, raise all the calves on skim milk with oat chop and bran and good clover hay and keep them in the barn during the first summer. I find that they do much better during winter if I feed clover hay and oat straw with a few roots and enough oat and barley chop to keep them in good growing condition. The second winter I feed them in the same manner and they go to grass in the next Spring in very fair condition and are ready for market in July or at the age of 28 months and average about 1,100 pounds.

I also keep 30 head of sheep of the Leicester breed and also use pure-bred rams. I feed them on clover hay and roots during the winter. I also keep 100 white English Leghorn fowls. I tried to get the best laying strains and select the best layers for improving the flock. I raise a nice flock of geese and keep three geese for breeding. All told, I handle considerable money from poultry.

I keep one heavy team of horses and a good heavy draft brood mare and a general purpose driver. I aim to sell colts from two to three years of age. I have on the average two colts to sell every three years.

I keep one brood sow, raising an average litter of seven pigs. I have 160 acres of land, 70 acres cleared and well fenced. I never have to buy any feed except some bran and oil cake meal. I always have a few tons of hay to spare in the spring, unless I get a chance to speculate a little by buying up a few good yearlings in the fall and wintering them over. Last fall at an auction sale I bought 6 yearling heifers for $125. These looked good to me and to-day at the present feed prices I find that I have made some money. I crop my land in the following manner. All the bush land is in pasture. Ten acres more in pasture, 5 acres in roots, summer fallow for fall wheat, and I fallow this with hay and clover. This is left in hay for two years and then the rotation is repeated. I find that this keeps my land in good shape and I can cut from 2 to 2½ tons to the acre of hay each year. I top dress new seeds as much as I can.

Besides getting our own living off the farm, our table being supplied with butter, eggs, flour, potatoes, vegetables and fruit grown on our own farm, we have the following figures to show for our success in farming:

Yields of a Farm, 1916.

Surplus wheat, seed grain and potatoes sold	$ 100.00
6 cows, butter, $30 each	180.00
6 head cattle at $70 each	420.00
30 fleece wool at 8 lbs. each, at 32c lb.	76.80
40 lambs at $7.50	300.00
100 hens at $1 each, surplus eggs	100.00
3 pigs, 150 lbs. each, at 14c	63.00
Turkeys, geese and chickens	50.00
Colt on average each year	125.00
Young stock bought and resold	100.00
	$1,514.80

America's Meat Supply

A Summing Up of the Cattle Business as it Looks To-day —Prices Can't Fall Much

By PAUL D. HAMMETT

THE United States, as it enters the world war, is confronted with the most serious meat shortage in its history, Domestic demands for meat, larger than ever before, coupled with enormous demands from Europe, have cut the available supply of meat to a minimum and now every agency which in the remotest way is concerned with the production of food is working to the extreme limit to bring an increase, and a big increase, in meat supplies.

Government figures issued recently show a decrease of more than 10,000,000 in the number of cattle, other than milch cows compared with ten years ago and of nearly 5,000,000 in the number of sheep in the period of 1907-17.

Meantime the population of continental United States has increased 15,000,000. Thus the supply of cattle, available for food, has decreased 20 per cent., and that of sheep 10 per cent., while the consuming population was increasing 18 per cent. When these figures are considered it also must be borne in mind that Europe is a bigger buyer of meat than ever before because of the depleted herds of that continent. War has left tens of thousands of farms in Europe without meat supplies and then the armies are getting meat in tremendous volume. The nation-wide prosperity in the United States has put the price of a beef steak into the pockets of a million or more men who formerly considered one rich steak a week a luxury.

Hogs are the only food animals showing an increase, the number of swine in the United States the first year, when the last government figures were given out, having been about 13,000,000 greater than in 1907. To-day, however, it is doubtful if figures would show this increase in hogs has been maintained. In fact officials of the different breeds admit there has been a tremendous liquidation during the last few months and that in thousands of instances droves have been cut to the minimum by farmers who have been tempted into the markets by the prices being paid for swine. Hogs to-day selling as they are at $16.50 a hundred are just $2.50 a hundred higher than the previous high time in this country's history, and that was during the last year of the Civil War. At no time since the North and South fought the four years' war have prices for hogs approached the present levels.

Cattle selling at $13.75 are higher by far than at any previous time. Choice fed steers for the International Live Stock show in Chicago have sold slightly higher, but in the regular trade nothing has approached present figures.

Sheep and lambs have gone through one continuous round of profit and glory for their owners in the last two years. Lambs are selling at $20.75 a hundred and aged ewes at better than $14. One of the things that has sent the sheep and lambs so high is the demand for wool and the consequent high price being paid for it. Wool is quotable around 50 cents a pound and the prospects are that it will be hard to get before very long. This year the Middle West had comparatively few sheep and lambs, the principal supply coming from Colorado, Wyoming and the other far Western States. Corn-belt feeders have been too willing to take profits when they were ready to be taken to put by a generous supply of sheep for years to come. Many thousands of pregnant ewes have come into the markets, so high have been the prices, and now these same breeders are regretting their hasty action, for lambs at better than $20 are decidedly profitable.

The four big packers of Chicago, recently called to Washington to confer with government officials on what the government could depend upon so far as the meat goes, reported they were able and ready to handle all the meat they could get. Notice the qualifications. They did not say they would run their plants at capacity, for they knew there is a serious question as to whether raw material could be found to run at capacity.

Thomas E. Wilson, president of Wilson & Co., packers, one of the "big four," said recently to a representative of the FARMER'S MAGAZINE:

"The present unprecedented prices and the light runs at the principal markets certainly are indicative of a shortage in the country. If these prices will not bring out the stock the country surely does not hold it."

The large decrease in the number of food animals has not, however, reduced the value of the entire group. On the contrary the increase in prices of meats has greatly increased the value of the reduced number. The Department of Agriculture figures put the value of the 40,849,000 cattle, other than milch cows, on farms in the United States on January 1, 1917, at $1,465,662,000, while the value of the 51,566,000 head in 1907 was but $881,557,000. The average value per head of milch cows in 1907 was $30.78 and in 1917, $59.66; all other cattle in 1907, $17.09 per head; and in 1917, $35.88 per head; sheep in 1907, $3.83 per head, and in 1917, $11.73. Thus cows, beef cattle and sheep have doubled in price per head in ten years, while swine show an increase of 50 per cent. per head in that time.

For half a decade past packers have been slaughtering cattle faster than they have been produced. During the period of depression cow herds in the West were dispersed, the steer man becoming the conspicuous man in the trade. The steer, unfortunately, lacks reproductive capacity and the ranks of the steer handlers have become thinned by inability to replenish pastures. The monster bovine migration of former years from Texas breeding grounds, to Montana, Wyoming and the Dakotas practically has ceased, graziers in the corn belt finding it harder year by year to get the steers to put on their pastures and in their feed lots for fattening purposes. Texas stock cattle have doubled in value in a brief period and the appreciation still is going on. Less than a decade ago the Texas breeder was seriously concerned over an outlet for matured cattle; the number of three to five-year old steers in that state to-day easily can be enumerated. As Northwestern pastures could not replenish the Southern breeding ground, Montana, Wyoming and the Dakotas have been getting short of cattle until producers in the corn belt have been compelled to scour Western Canada, Minnesota and Wisconsin, taking anything wearing a hide.

James J. Hill, empire builder, said just before he died that the United States would go to bed hungry some night before long if more attention was not paid to its agriculture, particularly the production of meat. From the outlook to-day it would appear that that night is not far away. It is a question whether the United States can meet the demands from abroad which will be enlarged since Uncle Sam has cast in his lot with the Allies and at the same time supply domestic demand. In fact many experts at the markets and in the agricultural colleges say it cannot be done unless the farmers almost to a man take hold now with the idea of producing every possible pound of meat. Regardless of this action, if it is possible to bring it about it is likely that beef will be short for the stock is not in the country at the present time and it takes five to six years to swing around in this class of live stock. A change can be made in sheep and hogs in two years and the crops of these two classes materially increased if not put back on a normal basis.

Wool 56 Cents

The Quebec Province Wool Grading Association receives 56 cents for the best of their wool clip this spring and 50 cents for their medium quality.

High Prices for Cattle

J. E. Poole, of the Union Stock Yards, Chicago, says that an enormous corn acreage has been planted in the U.S. and if nature does its part there will be a scramble for feeding cattle along in the fall, as fat cattle prices will furnish incentive to fill feedlots. Western Canada should put a stiff price on its young cattle and not give them away to a coterie of speculators that has been reaping a harvest out of this business. Feeding sheep will be scarce and cornbelt feeders will have no alternative but to go to cattle.

Good Prices for Grades

A few days ago I attended a sale a few miles from our farm. In all 17 head, mostly grade Holsteins, were sold. They were fine individuals and a few of the best sold around the $150 mark. The announcement that a cow had been successfully bred to the pure bred bull in the stable, a right good one, never failed to raise the bid $5. Had these grade cows been tested, the records they could undoubtedly produce would have added another $25 or $50 to their selling price.

Cow testing and good breeding are grand partners when a dairyman is forced to dispose of his herd. The old claim that a grade bull is as good as a pure-bred and that the man who milks his cows just naturally knows what each produces, is seldom heard nowadays. The weight of evidence is too strongly against it.—F.E.E.

Rations in War Time

"Extravagance, always a folly, in these days becomes a crime;
Thrift, always a virtue, in these days becomes a national duty."

MEAT prices are high and likely to be higher. Many of the cheaper cuts have a high food value, and can be made tender and of good flavor by first browning the surface, then cooking by slow moist heat, as in brown stews, pot roasts and braised dishes.

Excellent substitutes for meat are found in beans, peas, lentils, skim milk and cheese. Nuts, which make a first-class meat substitute, are too expensive at present prices.

The shortage in meat can be partially overcome by increasing the poultry product. Every egg which can possibly be hatched should be hatched this year.

Most of the cereals are so cheap, and many of them are so valuable for their protein as well as for their starch and mineral matter that they can be made to fill a large place in the diet. Keep several varieties on hand and have frequent changes. Remember that the home-cooked cereals are more nutritious and less expensive than the commercially prepared breakfast foods. Cereals bought in bulk are cheaper than those in packages. Buy them fresh and keep them in glass sealers until used. To have a cereal well cooked and carefully salted means as much as the quality of the meal in giving a palatable, digestible porridge.

Home-made bread, where a woman has time to make it, costs less than baker's bread. The quantity of bread which could be bought for $1 can be made for 58c. invested in a good strong bread flour.

Although pastry is prohibited in Britain, a great many women living on farms consider it an economical dessert, if dripping is used instead of lard or butter. Strong flour is necessary for bread, but pastry flour makes better cakes and pastry, is less expensive and requires less shortening.

Potatoes at present prices might well be substituted, occasionally at least, by other starchy foods like rice or macaroni. Dumplings with a meat stew take the place of potatoes very well. Potatoes cooked in their skins are better flavored, and there is less waste than where they are pared before cooking.

Skim milk is a valuable food for children and could be used in most of our cooking where we generally use whole milk. Cottage cheese contains practically all the protein originally in the whole milk. Butter milk is a medicine as well as a food.

Any sweet dripping may be used to take the place of butter and lard in cookig.

Suet may be used instead of butter in a great many puddings.

Commercially canned vegetables, fruits and meats are expensive. With more of these home-grown and home-canned, our food bills would be greatly reduced. Proper storing of winter vegetables will go a long way in preventing waste.

Apples might well take the place of practically all imported fruits this year. Previous to this year Canada has shipped annually to great Britain 1,000,000 barrels of apples. An embargo has been placed on apples this year, so we will have 1,000,000 barrels of apples extra on our hands. By employing a variety of methods of cooking fresh apples, by drying, canning, and the use of apple butter and sweet cider very little of the apple crop need be wasted.

SIMPLE, WHOLESOME MEALS FOR CHILDREN.

It would be the most wasteful kind of saving to underfeed a growing child. Most cases of malnutrition, however, come not from underfeeding, but from feeding the wrong things. A balanced meal for adults is not a balanced meal for a child. A young child may be considered well fed if he has plenty of milk, bread and other cereal food; an egg once a day or its equivalent in flesh foods; a small portion each of carefully prepared fruits and vegetables, with a small amount of sweet food after his appetite for other foods is satisfied. Fat is an important part of the food of children, and must be provided in palatable form. Sweets cannot replace it.

The following may be taken as sensible menus for a growing child:

Breakfast.—Apple sauce, oatmeal with milk, toast or bread and butter; other stewed fruits (or for very young children orange juice) and other cereals, such as corn meal, meal mush, farinas or cracked wheat may be used sometimes for the sake of variety.

Dinner.—Meat, stewed, boiled or roasted, with potatoes and some other vegetable valuable for its mineral acids, such as spinach, asparagus, greens, lettuce, celery, cabbage, carrots; and rice pudding or some other milk and egg dessert. Tea, coffee, pastry and pickles should not be given.

Supper.—Some warm, nourishing soup made with milk or meat stock, and vegetables; toast or bread, preferably brown bread, and butter; apple sauce or some other stewed fruit. Instead of soup, a soft cooked egg; a custard, or a dish of mush and milk, or a baked potato with butter or milk gravy might be given. Plain cookies or plain cake may be given with moderation.

The Woman Farmer

How One Writer Tells the Story of Meeting the Farm Shortage

By ANDREW McTAGGART

"HOW long the war will continue and how great will be the sacrifices demanded of us if liberty is not to perish from the earth, no one can at this moment forecast. The struggle is bound to be terrific. Short it cannot be. The old order has passed away. The hour calls for our best. Action must be quick and strong. Each man is called upon to act and to act now."

Thus spoke the minister of the white church out in the country on the sideline. Henry Bronson and his wife were attentive listeners and on Monday morning Bronson announced to his wife, "Mary, I've been thinking. I've got to sign up. I can't stay here and let the other fellows do it all. It's mighty hard now that we have the little place paid for to sell out, but it has to be done."

"But, Henry, why sell?"

"You won't hinder my going?" and Bronson's voice was a strange mingling of affection and disappointment and bewilderment.

"Hinder you? Henry, I daren't. But if I consent to you in this it is up to you to let me have my way about selling."

"You don't want me to rent do you?" pursued Bronson.

"No. If you can go soldiering I can go farming. This isn't what either of us have wished or planned for, but the thing simply must be done. I'm too young to knit all my days and I know that I can get on at farming. There is nothing else that I can do so well or about which I know so much."

And this was what was finally agreed upon. Mary Bronson was given full charge of the farm. Henry turned his mind wholly to the affairs of his country and Mary was given a free hand to put her best into the little farm.

"I'll hire no help that is fit for military service," was her first resolve. "For one thing it would sicken me to have a man about me that is fit for war, but who is a slacker. Then the time's coming, or our minister isn't well informed, when every man will have to go anyway."

Accordingly an advertisement was inserted in the daily paper stating her case, asking for the sort of man she required. The wages were good and in two weeks the man was at his task.

"I'll not attempt to do as much as when Henry was here, but what I attempt I'll do well," was the wife's next resolve.

"I'm going to let the man look after the team and the field work. Evidently he knows a good deal about horses and he'll be kept busy if he does the team work and the heavier work in the chores. I know more about buttermaking and fowl and feeding hogs than I know about the grain. If I find myself too busy I'll get the best house help I can find and pay good wages for the right sort of service."

The next step was a two-fold one. It consisted in testing out of the dairy herd for both quantity and quality of milk. Along with this went the installation of a milking machine. Mrs. Bronson saw that the milking of ten cows was likely to prove too heavy a job for her. Hence her resolve to procure the milking machine. Along with the milking machine she had installed a power outfit in the laundry and dairy that saved her many a backache as well as insuring cleanliness. All was not done in a day, but by the end of the first year after her husband's enlistment, by dint of lots of the real thing in brain-sweat the brave woman was well on the way to having all her work well in hand. Her aim was to keep good and busy, but

Continued on page 53.

The Sycamore Fig in Egypt

Interesting Facts About a Delicious Fruit

From the *Journal of Genetics.*

PERHAPS no tree in the world has to the same extent as the sycamore occupied the pens of writers from the dawn of history to the present time. It was one of the sacred trees of Arabia and Ancient Egypt, and in olden times played an important part in the cult of the dead. The sycamore was also the tree of Hathor, the goddess of love and marriage, on which account the lovers of Ancient Egypt were wont to tarry fondly under its branches in the hope of receiving the goddess's blessings. Even to-day, a vestige of this belief can be seen in the custom of women visiting the sycamore when troubled with matrimonial cares.

The sycamore is frequently mentioned in the Scriptures. The story of Zaccheus climbing a sycamore tree is, of course, familiar.

Amos was probably a gatherer of sycamore fruit. Muschler, in his Manual Flora of Egypt, describes the instrument used at the present time to cut the fruit open in order to ripen it, and in this connection he states that the process as described by Pliny closely corresponds with the modern method and, further, that "it would seem to be pretty certain that Amos performed identically the same operation on the figs as is still done in Egypt at this day."

The word "sycamore" which is derived from the two Greek words "Sucon" (fig), and "moro" (mulberry), is an appropriate name for this tree, because the leaves are not unlike those of a mulberry and the fruit closely resembles that of a common fig. The tree is also known as Pharaoh's fig.

The sycamore is found throughout Egypt—in the Delta, Nile Valley, and also in the Oases. It is a large evergreen tree with a round symmetrical head when young. The trunk is usually short, and as the tree increases in age the branches spread out more or less horizontally to a radius of 15 to 20 meters. The leaves are ovate, alternate and almost glabrous on both surfaces; petiole about half the length of the blade, furry pubescent; shoot pubescent, furnished with a ring of stipular hairs at the insertion of each leaf. The bark retains its herbaceous character for several years, eventually becoming grayish-brown in color, but without any fissures.

The fruit is borne almost entirely on specialized leafless branches, which arise on the ordinary vegetative branches. Rarely, a few figs are borne on the leaf-bearing shoots. The fruiting shoots generally appear first at points on the vegetative branches where the latter have a diameter of about 6cm., although occasionally they are found on smaller branches. The internodes of the fruiting shoots are almost wholly suppressed so that growth in length is very slow. Secondary shoots are given off in a racemose manner at irregular intervals until a dense, much-divided fruiting branch is formed. These branches attain a length of about 30 cm. They persist for many years and may be found on the mother branches when the latter have attained a diameter of 30 to 40 cm.

FLOWERS ARE PECULIAR

Flowers of the fig trees commence bearing at the age of 5 to 6 years. The figs arise singly or in pairs in the axils of the fugacious scale-leaves ofthe fruit-bearing shoots.

There are, as far as we know, two varities of sycamore in Egypt. The most important of these is that known as "Roumi," Turki or Falaki. As compared with "Kelabi," by which name the second variety is known at Cairo, the branches of the old trees of the Roumi spread out more horizontally, the shoots are stouter, and the leaves, as a rule, are set more closely together on the twigs.

Figs are found upon the trees at all seasons of the year. In the case of the Roumi, which is the principal variety at Cairo, the young fruits of the first crop appear about the beginning of April. They almost all appear within a period of 4 to 5 days, after which very few fruits are produced until the next crop arises. The first crop is known at Cairo as "Iskat." It is usually a good crop, but not so abundant as the two following ones.

The fruits of the second crop appear as small buttons in the first week of May. This is known as Cairo as "Dor Kamel." It is always a better crop than the first.

THE FIG-WASP

What we have said, however, applies in all important respects to the sycamore generally. The fruits of the sycamore are always inhabited by the insect *Sycophaga crassipes.* These little wasps use the ovaries of the flowers as cells in which to lay their eggs and rear their young. After the eggs are laid, each ovary increases in size, in order to accommodate the insect which develops inside. The young insects which first leave the cells are all males; they are wingless and dark brown in color. As soon as they come out they fecundate the females whilst the latter are still in the cells, in which they have been hatched. When the work of fecundation is finished, the females leave their cells and the males die. The latter may usually be found dead in a cluster just inside the "eye" of the fruit in which they have passed their life. The females are shiny black in color, and are furnished with two pairs of wings and a long ovipositor. As compared with the males, they are somewhat short. As soon as the female leaves the cells she makes her way through the "eye" of the fig to the open air. Sometimes she does not come out by way of the "eye" but through a hole which she cuts in the wall of the fruit. This, however, does not occur frequently. As soon as she has escaped from the old fig she flies to another which is still in the early stage of development. Alighting on this she forces her way between the closely fitting scales of the "eye" until she reaches the interior. This operation usually causes her to lose her wings. The presence of these protruding from the "eye" is a sure sign that the wasps have entered the fig. The presence of a minute hardened drop of sap also denotes the entry of the wasps. When they have reached the cavity of the fig they proceed to lay an egg in each flower and then die.

The number of insects which enter each fig varies between two and thirty-six. They are more plentiful in autumn than at any other season. At that time the number of eggs laid in each fruit is at least 1,000.

In summer the insects enter the figs when the latter are 15 to 20 days old.

CHANGES IN THE FIG

As soon as the eggs are laid, the fig commences to secrete a watery fluid which eventually fills the cavity to about one-fourth of its capacity.

As we have already explained, in autumn there is a continuous production of fruits so that whenever the wasps come out of the mature figs they find others of a suitable age in which to lay their eggs. In winter the growth of both figs and insects is slower than in summer.

We have not been able to find seeds in any of the figs. It, therefore, appears that the only *raison d'être* of the figs is to provide food and shelter for the wasps.

In fact, experiments tend to prove that, in the absence of the insects, the figs are not able to continue their growth beyond the initial stages.

We have surrounded the young fruits with muslin bags and thus prevented the access of the Sycophaga to the figs, and in no case has the usual secretion of liquid taken place inside, but, on the other hand, after the lapse of a few days the figs have shrivelled and fallen. The presence of the wasp, therefore, appears to be an essential condition for the development of the fig itself. We naturally suppose that the use of the fig to the tree in its primitive state was the production of seed for the propagation of the species.

Sycamore Figs.

Since the dawn of history, the sycamore fig has played a prominent part in the life of the people of Egypt and a few other oriental regions. The fact that it yields fruit throughout the entire year, perhaps, contributes to the esteem in which it is held; for to a westerner its fruit seems of little value, being small and without a particularly pleasing flavor, and only partly edible. Each fruit is entered by a small wasp, which lays eggs in it; the Egyptians, therefore, make holes in the ends of the fruits while they are still small, to admit air and keep the eggs from hatching.

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Rural Mail Delivery

The Passing of the Country Post Office.

By J. Smyth Carter.

THE lure of the city and the rapid changes of scene, characteristic of urban life, often cause a forgetfulness of the rapid transition enacted in every concession line, out in the townships. During the past decade, rural ethics and rural environment, have set a new pace affecting very directly our national life.

In our study of the "back-to-the-soil" question (every eligible person is a student or graduate of that course) we discover that humanity is quite naturally divided into three distinct classes—those who reside in the country, those who formerly resided there, and those who regret that such a privilege never came to them. To the two classes first mentioned, recollections are vivid, memories are radiant, but particularly so, in the matter of the country post office, which ever and anon has been the active heart pulse of each settlement.

If it is necessary, in order to verify this ruling to cite an exception, we might suggest the Canadian Senate. Judging the rural post office by this dual standard, it appears supremely worthy of an honored position. Although as an institution it is fast passing, owing to the advent of rural free delivery, yet it has long served as a medium of utility. To the pioneer settlers it was the sole connecting link between the old life, and to the new solitude, while following along successive decades it has been an active agency in stimulating a wholesome, healthy atmosphere of rural progress.

But to be very definite, let us take a concrete instance. There was Pipeville post office, long known to the Canadian public, but recently erased from the map. Exit the post office, enter the rural courier. My reason for choosing Pipeville is because it is particularly representative of its class. Perhaps the most interesting character in connection with this office was the postmaster, Adolphus Granger. Pipeville never knew any other postmaster. Although he received his appointment away back in the early years of Sir John A. Macdonald's regime, he was never removed from his position of duty and honor. While other postmasters abode in fear and trembling with the changes of government (both real and apparent) Adolphus never wavered. Being the people's favorite, woe betide any local member or defeated candidate (the leading patronage artists in every constituency) who would recommend the removal of Postmaster Granger. In the twentieth century parlance of the professional politician "he was solid with the people." Now Adolphus was typical of a great number of postmasters throughout Canada, and the initial incumbents of the honored posts, who weathered the storms of political changes and lean years. Only the march of progress, caused them to cease from their postal labors in order that the rural courier might hold sway.

Many of these fathers of the pioneer post offices, have contributed well and worthily to the upbuilding of rural Canada. Some were instrumental in securing the service to the community. As a class they each took an interest in the intellect-

ual life of the neighborhood, while the post office corner or the private home of the chief, was oft the scene of animated public discussion on questions vital to the welfare of the earlier communities.

Although not so designated, they were in truth the first Canadian clubs, minus, of course, the embellishments of down-town luncheons and out-of-town speakers. As to the latter requisite, local talent was ever to the fore, the postmaster leading the discussion. In view of all the circumstances, it seems that some form of public recognition might be accorded to the veteran postmasters who have served faithfully for thirty, forty or fifty years, many of them at very meagre financial reward. If a pension scheme is not considered feasible, the Government might at least place them on our list of titled gentlemen. I would not suggest any of those forms of knighthood which have become so commonplace in Canada, but a distinctive and original title, suggestive of worthy service rendered. This would suffice, "Very Deserving Public Servant," and how appropriate, "Adolphus Granger, Esq., V.D.P.S.

In view of the gradual passing of the rural post office in the more thickly populated parts of Canada, the report of the Postmaster General, for the year ending March 31st, 1915, furnishes much of interest relative to the growth and development of the rural mail service. During that year the number of rural mail delivery routes was increased by 695; more than 37,500 boxes were erected on these additional routes, while the increase in the number of letters and post cards sent exceeds thirteen millions. Nine hundred and thirty-eight postoffices were closed, four hundred and seventy-five new offices were opened, making a net decrease of four hundred and sixty-three. During the previous decade there had been an average annual increase of 247 postoffices throughout Canada. In the fiscal year referred to, the increased mileage of stage routes was about one and a quarter million, while an expenditure of four hundred and fifty-five thousand dollars had been made for rural boxes. As an evidence of the growth of the Canadian postal system, in keeping with the general advancement of the country, we find that in the fiscal year of 1876, the number of letters posted was forty-one millions, while nearly six hundred and and eighty-seven millions is the total for the fiscal year 1915. Many changes in the frequency of mail service are reported, from monthly to fortnightly, weekly to semi-weekly, weekly to daily, two offices from weekly to seven times per week, two others from eight times weekly to daily.

Although the number of "dead letters" reported in 1876 is much greater in proportion than those of recent years, a testimony to the efficiency of the Canadian postal service, one might readily suppose that the early years of Canadian R.M.D. service would bring to the "Dead Letter" department an additionel grist, owing to the many changed addresses and the variety of R.M.D. routes. An examination of the lists of contents of letters and packages, numbering thousands, received at the dead letter department during the past year will form Exhibit "A" in the evidence supplied. The student of human affairs may readily judge whether urban or rural needs are more largely represented. A few of these may be mentioned,—babies' bootees, boudoir caps,

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cakes, capsules chiclets, champagne, crumb tray, Easter eggs, I.O.G.T. (I often get tight) certificates, Epsom salt, feather bow, legacy forms, manuscript (broken-hearted authors take notice), night robes, paint, pajamas, wedding rings, wedding cake (romance unfolded), salt shaker, bread tickets, boat tickets, car tickets, lottery tickets, loan tickets, meal tickets (some folks went hungry), milk tickets, railway tickets. The department, though dead, seems to display a special appetite for tickets.

The above, which constitutes a mere fractional portion of the complete list, represents a large number of disappointments, financial losses, heart aches, hungry and barefooted babies, sleepless nights, matrimonial shipwrecks and legal entanglements.

A near and dear relative of the rural mail service is the parcel post system inaugurated Feb. 10th 1914. It indeed satisfies a public need and is increasing in popular favor. With increased facilities for handling larger and heavier parcels, the Government, it is hoped, will meet the requirements by extending the system. If properly directed, "Parcel Post" should prove to be the sustaining force of the rural mail service. The beneficial results, financial and otherwise, which may be attained through a great commercial service, going, in many instances daily, to the very doors of rural residents, is something which should be utilized to the very fullest extent. No private companies, which may be the pet children of any political school, should be permitted to delay the era of cheaper and more efficient distribution of general commodities throughout Canada.

The measure of success attained by other countries in the matter of rural mail delivery is worthy of our perusal. In our examination for discovery, let us look to the United States. Even those Canadians, who are deeply distressed at the thought of a free trade pact, should have no objection to reciprocity of ideas. Yes, we even borrow large sums of money from American financiers, while each day we grow more British. The year 1897 saw the introduction of rural mail service in the republic to the south of us. It surely was in an experimental stage, because, judging from the report of the Postmaster General of that time, no fixed rules or regulations seemed to exist. In 1901 the law directed that a patronage of one hundred families was required on a full route, the maintenance of roads passable at all seasons, and the erection of boxes for the reception of mails. Since then the adoption of the plan has become wide-spread, until rural mail service plays a prominent part in the life of that nation. The United States Government realizes that "eternal vigilance" is the price of success. The careful investigation of applications for rural routes is dealt with in thorough fashion. From a series of these reports the following quotations are gleaned:

"The prospective patrons of this route care little for the benefits of a rural free delivery. The people, with few exceptions, are poor and illiterate. The petition was circulated by a man whose object was to get the position of carrier."

"This route is twenty-five miles in length. The majority of houses are nothing more than single room cabins, made of logs, and chinked with mud. A number of these do not even have a window. One

half of these people had never owned a lamp."

"Many of the people in this section are not in favor of rural mail delivery, and say the petition was signed to oblige the man who carried it around, and some of the signers were just as quick to sign the remonstrance against the route. Most of the people agree that a rural free delivery would simply give some man a job with a good salary. The amount of mail handled daily in all the postoffices on the route will not amount to twenty-five pieces."

"This route was planned and the petition circulated by a man who keeps a store and lives at the proposed distributing point, and whose only interest was the possibility of getting the position of carrier. The majority of the people are of the poor tenant type. Most of the country is boggy and swampy. Seventy-five per cent. of the people have not the money to purchase the necessities of life, let alone money for approved mail boxes, subscriptions for newspapers, and postage stamps."

These are but exemplary of the prevailing pitfalls which may be encountered, especially in the early years of the system. A constant and intelligent inspection of the rural delivery and the maintenance of certain well-defined standards is necessary if the cost is to be prevented from running at a riotous pace. Just as urban centres must reach a certain standard before receiving local delivery, so in rural localities fixed requirements should be observed and the service and cost carefully computed. Sparsely-settled districts should not expect rural deliveries.

Few people deny the fact that "rural mail" facilitates business and social communication. The one objection raised is the huge financial outlay. This can in a measure be overcome by considering every new-route application solely on its merits. Because either Dr. Lally, the sitting member, or Lawyer Briggs, the Opposition candidate, desires to achieve something in view of the approaching election, is not sufficient reason for instituting rural mail service in any part of the constituency. Political considerations should have no control in the opening or closing of the routes. Both political parties should govern themselves accordingly.

A writer in the *North American Review* speaks of the danger thus: "Of all the political machines ever set in motion for the advantage of self-seeking partisans, the rural free delivery shows promise of being the most far-reaching and potent in its malignant results."

If we attach the proper value to the fact that the roots of every industrial project run far out into the soil, and furthermore that this condition will be intensified at the termination of the "Great War," we cannot fail to realize the importance of rural mail distribution and all other services which affect most directly the rural populace. After all, the R.M.D. is not a new creature but only a natural development of what was born of progress many years ago, when the city delivery was instituted. Thus it took root in the prepared soil, first in the more thickly populated districts. It comes at a period when expanding farm life welcomes its advent. There was a time when rural needs through the postoffice

Continued on page 45.

LISTER

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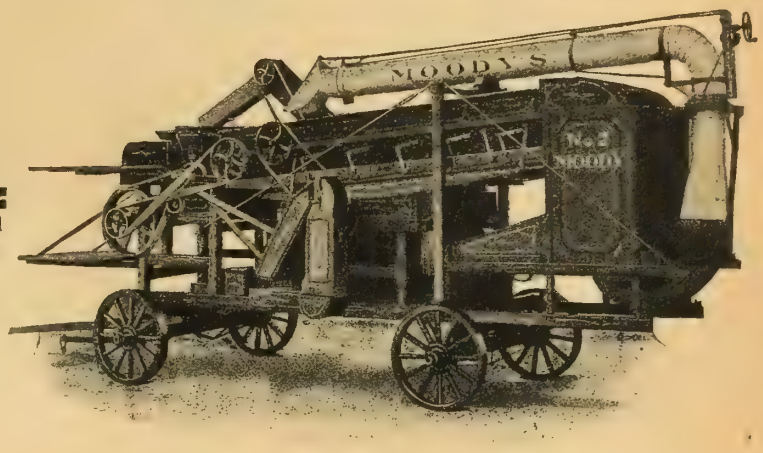

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WINNIPEG, MAN.

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The only black dressing for ladies' and children's shoes that positively contains OIL. Softens and preserves. Imparts a beautiful black lustre. LARGEST QUANTITY FINEST QUALITY. Its use saves time, labor and brushes, as it Shines without brushing. Sponge in every bottle, so Always Ready for Use.

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"QUICK WHITE" (in liquid form with sponge) quickly cleans and whitens dirty canvas shoes. 10c and 25c. "ALBO" cleans and whitens BUCK, NUBUCK, SUEDE and CANVAS SHOES. In round white cakes packed in zinc boxes, with sponge, 10c. In handsome, large aluminum boxes with sponge, 25c.

"ELITE" combination for gentlemen who take pride in having their shoes look A1. Restores color and lustre to all black shoes. Polish with a brush or cloth, 25c. "BABY ELITE" size 10c.
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ASK YOUR DEALER FOR

WHITTEMORE'S
Shoe Polishes

Bread Making and Uses of Dough

By May C. McDonald.

The ability to make bread should be considered one of the most desirable accomplishments a girl can acquire, as good bread is the most essential of all cookery.

Every step in the bread-making process is based on definite reasons which are no longer matters of family or neighboring traditions, but are based upon exact scientific information. Making a loaf of bread is much more interesting when one realizes that she is learning and applying principles of bacteriology, physics and chemistry.

Flour for bread should have the following characteristics:

1. Color should be creamy white.
2. If pressed in hand, flour should fall loosely apart and not stay in a lump.
3. When rubbed between the fingers, it should feel smooth and powdery but individual particles should be distinguished, making it feel gritty or granular.
4. Should have a sweet, nutty flavor characteristic of the wheat grain.

FAULTS IN BREAD.

Faults in bread are due to one or more of the causes given.

1. Sour bread:
   - Poor yeast.
   - Dirty utensils.
   - Impure liquids.
   - Too long rising.
   - Too high temperature.
   - Too slow baking.
   - Incomplete baking.
   - Wrapping while warm.
2. Heavy bread:
   - Poor flour.
   - Too much liquid.
   - Insufficient rising.
3. Coarse texture:
   - Too long rising.
   - Too soft dough.
   - Too cool an oven when dough has already risen sufficiently.
   - Too hot an oven at first.
4. Little burned blisters:
   - Too hot an oven at first.
5. Cracked loaf with one side higher:
   - Too stiff dough.
   - Uneven heat in oven.
6. Loaf run over on sides:
   - Too long rising.
   - Too soft dough.
   - Too cool oven at first.

PROPORTIONS FOR ONE LOAF.

For purposes of exactness the proportions necessary for one loaf are given. It is an easy matter to multiply these proportions by the number of loaves desired. The following will give an average sized loaf about 4 x 5 x 9 inches and weighing approximately one pound.

In using these proportions all measures should be level. The standard measuring cup holding one-half pint should be used. The flour is sifted before measuring.

1 cup liquid
1 to 2 teaspoons fat
2 teaspoons sugar
1 teaspoon of salt
3 to 4 cups of flour.
¼ cake of compressed yeast or
¼ cake of dried yeast or
¼ cup of liquid yeast.

Kneading is done to finish scattering the yeast plants throughout the dough and to distribute the gas bubbles which the yeast plant forms and break up the big bubbles so that the bread will have a fine texture or small even holes throughout. Kneading also makes the gluten in the bread more elastic if done for the right length of time. Evenness and rapidity of stroke in kneading counts more than strength. A thorough kneading before the bread is put to rise the first time gives the best results. The length of time for kneading is not as important as the matter of kneading. Dough should never be worked over 30 minutes, and if it is done with a quick even stroke 15 or 20 minutes is sufficient time. When dough has been worked enough, blisters will appear beneath the surface. It will have a velvety surface and be spongy and elastic. Too long working will destroy this elastic quality.

USE OF DOUGH.

There are a large number of ways in which bread dough may be utilized to give variety. These may well be used to supplant some of the richer pastries and cakes, which are more expensive, less digestible and whose preparation is time-consuming.

ROLLS

Here the dough may be shaped into small balls and placed just touching each other, in a greased pan. Care should be exercised in order that the biscuit is not made too large. A number of small pans are preferable to one large pan, as it is desirable to obtain a maximum amount of crust. If muffin pans are used, each roll will have a large amount of crust. To make buns dough is rolled to about ¾ of an inch in thickness and cut with a biscuit cutter. These biscuits are then placed in the pan not touching one another and allowed to rise.

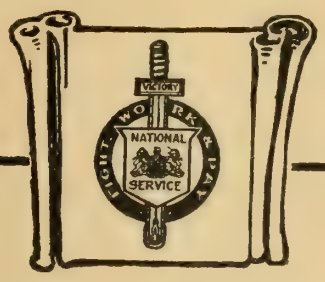
PARKER HOUSE ROLLS.

Knead dough and roll ¾ inch thick, cut with a round or oval biscuit cutter. Crease in the middle with a floured knife handle or wooden spoon handle, brush one-half with melted butter and fold over. Place one inch apart in a greased pan and let rise until doubled in size. Bake in a hot oven.

Light rolls are often desired at a time other than when the regular baking is done. During cold weather a part of the bread dough may be saved, when the loaves are shaped, and put in a very cool place but not in a freezing temperature. When any kind of rolls are desired, a portion of the dough may be shaped as wished, placed in a moderately warm temperature until light and then baked. The dough may be kept a week or ten days in this manner, and will give very satisfactory results.

Save the Food and Serve the Empire !

The Average Canadian Family Wastes Enough to Feed a Soldier



"The Kitchen must help as well as the Workshop and the Trenches"
Lloyd George.

INTELLIGENT economy in the kitchen can do much to prevent the threatened world famine—can counteract the effect of high prices—and can replace growing debt with systematic saving.

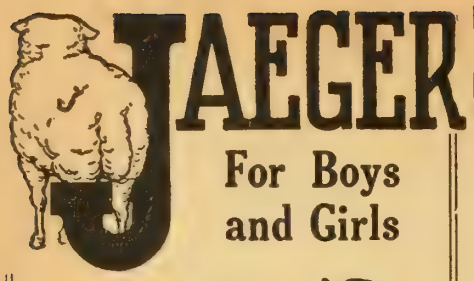
Careful investigations show that before the war the average British family wasted 25% of their food—and we Canadians were even more extravagant.

This waste is not in a few big things, but in many little ones, each, we used to think, too small to bother about—such as careless peeling of vegetables and fruit—failure to make good use of dripping and "left-overs"—and such others as will occur to every thrifty housekeeper.

For the Empire's sake as well as your own, hunt up and cut out these leaks ! You'll be helping to relieve the food shortage—saving your own money—and putting yourself in a position to buy Canadian War Savings Certificates and help win the war.

War Savings Certificates are issued in denominations of $25, $50 and $100, to be repaid in three years at full face value. They cost $21.50, $43 and $86 respectively, at all Money Order Post-Offices and Banks, thus yielding over 5% Interest. Should you need it, you can get your money back at any time. 19

The National Service Board of Canada,
OTTAWA.



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EDDY'S

INDURATED FIBREWARE TUB

SMOOTH FINISHED—NO SEAMS—MAKES AN IDEAL BABY'S BATH TUB.

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There is never any dispute about our clothing since we started using

CASH'S NAMES

Woven in fine Cambric Tape in Fast Turkey Red.

Using CASH'S NAMES is the ideal method for marking Linen, Knitted garments and woollens, which cannot be marked with marking ink.

Prices for any name not exceeding 22 letters.

24 doz.	$4.00
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Write for our Style Sheet

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Our Fashions

8449.—One-Piece Dress for Misses and Small Women.—In size 16 years the dress measures about 2½ yards at the lower edge. As shown, size 16 years requires 4 yards of 42-inch serge with 1¼ yards of 36-inch flannel for collar, cuffs, sash and pockets. Price, 15 cents. Sizes 16, 18, 20 years.

8368.—Little Boys' Dress. — Worn over petticoats or bloomers. As shown on the figure, size 4 years requires 3⅜ yards of 36-inch white linen for the dress, with ¾ yard of 27-inch plaid gingham. Price, 15 cents. Sizes ½, 1, 2, 4, years.

8669.—Little Boys' Suit.—There is a blouse with two-seam sleeves in full or shorter length and plain trousers. Size 6 years requires 2 yards of 36-inch linen for the suit, with ⅞ yard of 36-inch poplin. Price, 15 cents. Sizes 4, 6, 8 years.

8561.—Boys' Suit.—The sleeves are in full length with or without cuffs, or in shorter length. Size 6 years requires 3 yards of 36-inch chambray for the suit, with ⅜ yard of 36-inch piqué for the collar. Price, 15 cents. Sizes 4, 6, 8, 10 years.

8255.—Little Girls' Smocked Dress. —In high or V neck, one-seam sleeves in full or shorter length and a straight tucked skirt. Transfer 326 was used for the smocking. Size 4 years requires 2⅝ yards of 32-inch gingham for the dress. Price, 15 cents. Sizes 2, 4, 6, 8, 10 years.

8449

8383

8561 8368 8669

8633.—GIRLS' AND LITTLE GIRLS' DRESS.—Suitable for flouncings, bordered or other materials. Size 12 years requires 2¼ yards of 36-inch dark blue silk poplin for the dress and 1⅛ yards of 36-inch all-over lace for the waist. Price, 15 cents. Sizes, 4, 6, 8, 10, 12 years.

8518.—JUNIORS' AND GIRLS' DRESS.—As shown on the figure, size 10 years requires 1⅜ yards of 42-inch flowered dimity for dress, 1¼ yards of 36-inch lawn for guimpe and trimmed with 8½ yards of cluny insertion and 1½ yards of edging. Price, 15 cents. Sizes 8, 10, 12, 14 years.

8547.—LADIES' AND MISSES' APRON.—To be slipped on over the head. The belt and pockets may be omitted. Size 36 requires 3⅜ yards of 36-inch percale for the house dress. Price, 15 cents. Sizes 33, 35, 36, 40, 44 inches bust measure; 16, 18 years.

8255

8518

8633

8547

OUR PATTERN SERVICE

READERS of the women's departments of The Farmer's Magazine are reminded that the editors will be glad to answer any questions as to styles, costumes, patterns, household wants, that the subscribers send in. If there are any other patterns that are desired we would appreciate any expressions of opinions as to service. The large number of useful articles in this issue dealing with topics of every day use to our women folks will appeal to every reader of The Farmer's Magazine. In writing, use one side of paper only, giving correct name and address. Send all letters to the Editor of the Household Department. By keeping your magazines on file you can refer to back numbers for patterns and order by their number, naming the issue in which they appeared.

—Household Editor.

Attractive Dresses for the Home

will please the one you care for most, and brighten work itself. At the same time they will be practical, serviceable and not at all expensive if you make them of

"Steelclad" Galatea

(*Made in Canada*)

This is the cloth we make especially for house dresses and aprons—school dresses for the girls—waists and suits for the kiddies—nurses' uniforms—and such purposes where service is necessary, and attractiveness is a decided advantage.

"Steelclad" Galatea has plenty of body, is perfect in weave and texture, and the colors are fast to sun and tub. It wears—and wears—and wears—till the purchaser feels that she has more than got her money's worth. It has well earned its reputation as "the most useful cloth around the house."

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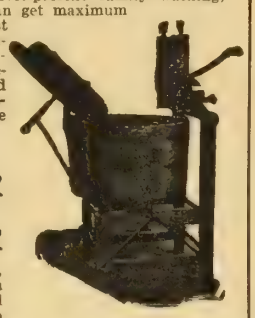
Why waste your strength on a washboard? to do the ever-present family washing, when you can get maximum results with the least effort by using the Connor Ball Bearing Washing Machine, and reserve your strength and ability for more pleasing and more profitable occupation.



The CONNOR Ball-Bearing WASHER not only saves your time, it saves the clothes from the harsh wash-board treatment. Gives much better results, with lighter work than when done in the old fashioned way.
Send for your booklet on this machine by first mail.
J. H. CONNOR & SON, Limited
Established in 1881 OTTAWA, ONT.

Good Cheese Makes More Customers Use Windsor Cheese Salt
Made in Canada
THE CANADIAN SALT CO. LIMITED 227

THE MONTH'S RECIPES

BRAN BREAD WITH YEAST.

2 cups milk
½ cup sugar
2 teaspoons salt
½ yeast cake
1-3 cup warm water
1 tablespoon shortening
2 cups bran
About 5 cups white bread flour

Put sugar shortening and salt in mixing bowl. Pour on scalded milk. When lukewarm, add the yeast cake softened in the warm water. Add the bran and flour, stirring until thoroughly mixed. Use enough flour to make it of the consistency of white bread dough. Set in a warm place to rise. When doubled in bulk, knead into loaves, let rise again and bake.

BRAN QUICK BREAD (NO EGGS OR SHORTENING).

2 cups bran
2 cups white flour
1 cup brown sugar
1 cup sour milk
1 teaspoon baking soda
1 teaspoon salt
1 cup raisins (optional)

Sift the salt and baking soda with the flour, add the bran and gradually stir in the milk. If raisins are to be used add them at the last, rolled in a little extra flour. Let the bread rise in the pans for about ten minutes before baking. This is excellent for sandwiches, spread with cream cheese.

SUMMER BAKED BEANS.

1½ cups dried Lima beans or white beans
¼ pound sliced bacon
2 medium sized onions
1 cup milk
Salt
Pepper

Soak the beans over night. In the morning boil until soft and drain. Sear the bacon in a hot frying pan; remove from pan and add the onions sliced. Cook these until soft. In a greased baking-dish place a layer of beans sprinkled with onions, small pieces of bacon and sparingly with salt and pepper. Repeat until all is used. Over this pour the milk and bake from fifteen minutes to one-half hour.

CANADIAN RICE.

2 medium sized onions
1 tablespoon lard
1 cup rice (uncooked)
6 eggs, or one for each person to be served
1 teaspoon salt
Few grains cayenne pepper
Boiling water

Slice the onions and fry them in the lard until they begin to brown. Add rice and stir until rice is golden brown. Pour on two or three cups of boiling water, add salt and pepper, cover and cook one-half hour, adding more water as it is needed. When rice is done, remove cover and let it get almost dry. Put in a wide, buttered baking dish. Make hollows in the rice and break in the eggs, sprinkle them with salt and pepper, cover and set in the oven for a few minutes till the eggs are set, but not hard. Serve at once.

CREAMED NEW POTATOES AND GREEN PEAS.

Boil potatoes and peas separately in salted water and drain. Into a large granite saucepan put 2 tablespoons butter, 2 tablespoons flour and ½ teaspoon salt. When well blended, stir in 2 cups milk, and cook until it thickens. Combine the peas and potatoes and pour the sauce over them. This method, besides making a very palatable and more nourishing dish than if milk were not used, has the advantage of making a small supply of the vegetables go a long way.

POTATO AND HAM CROQUETTES.

1 cup minced cooked ham
2 cups mashed potatoes
1 egg
Dry bread crumbs

Put the ham with the egg yolk in a sauce pan, and stir over the fire but let it barely heat. Stir in the mashed potatoes. Cool, shape into balls or flat cakes. Roll in fine dry bread crumbs. Dip in the egg white slightly beaten with two tablespoons cold water and roll in crumbs again. Fry on a greased frying pan or in deep fat.

MACARONI HAMBURG.

1 pound Hamburg steak or any lean beef put through the meat grinder
1 egg
1½ teaspoons salt
⅛ teaspoon pepper
1½ cups fried onions
2 cups macaroni, cooked
2 cups stewed or canned tomatoes

Mix together the meat seasonings and egg, and put into a buttered baking dish. Place the onions in a layer over this, and cover with the cooked macaroni. Pour tomato juice over this. The dish is more attractive if the tomatoes are strained to get rid of the seeds. Bake about thirty minutes.

RASPBERRY BETTY.

3 cups fresh raspberries
¾ cup sugar
3 cups soft, stale bread crumbs
4 tablespoons butter
¼ cup boiling water

Melt the butter in the pudding dish, stir in the bread crumbs and turn them out again. Fill the dish with alternate layers of the crumbs and berries, sprinkling each layer of berries with sugar, and having a layer of crumbs on top. Pour in the boiling water, cover closely and bake from twenty to thirty minutes. Remove the cover the last ten minutes to let the crumbs brown. Serve warm with cream and sugar.

RASPBERRY VINEGAR.

Place red raspberries in a stone jar, cover with one pint of moderately strong vinegar to each pint of berries and let stand over night. Strain off the juice and to each pint add two cupfuls of sugar. Boil ten minutes and bottle while hot. Dilute with ice-water for serving.

SPONGE BANANAS.

Cover the bottom of a flat baking-dish with small sponge cakes or lady fingers. Upon these place a layer of whole bananas and sprinkle with sugar to taste and the juice of one whole orange or a lemon. Sprinkle with chopped nuts or cocoanut. Bake in a medium oven about fifteen

minutes. Serve with custard sauce or thick cream. It should be remembered that the bananas are more tart when cooked than when raw.

BANANA SHORTCAKE

When berries or fresh peaches are out of season, use sliced bananas between and on top of layers of shortcake. Add the fruit the moment before serving, as the heat will discolor the fruit if allowed to stand after slicing when uncooked.

BAKED BANANAS.

Fill a shallow dish with bananas peeled and cut in halves lengthwise and crosswise. Allow one level tablespoon sugar, one teaspoon melted butter, a few grains salt, one teaspoon lemon juice and two tablespons water to each banana. Baste frequently with the syrup and bake slowly half an hour, or till bananas are red and syrup thick. Serve hot.

STRAWBERRY PIE

Make a nice crust and bake and cool it, and then put a quart of firm berries into it. Dust well with powdered sugar. Make a meringue of the whites of two eggs beaten stiff and sweetened a little. Cover the berries with this and brown in a hot oven.

STRAWBERRY RICE

Two cupfuls crushed strawberries, ¾ cupful uncoated rice, juice ½ lemon, ½ teaspoonful salt, 1 cupful powdered sugar, 4 tablespoonfuls butter, 1 egg white, beaten stiff. Boil the rice, seasoned with the salt and lemon, in two quarts of water. Drain in a colander, and set in the oven a few minutes to dry out. In the meantime cream together the sugar and butter until fluffy, beat in the strawberries, and then add the egg-white. Whip hard, and serve on the hot rice.

Milk 20 Cents a Quart

Milk is perhaps the most easily digested of all human foods. It contains all the elements necessary to the life of the young. For adults, it is a most wholesome food; but needs to be combined with other foods in order to get concentration, as well as bulk.

If we are to consider that a man will get all his food value from a single article of food per day, the quantities of any one of the following would be required:

Milk, 9½ pounds; cheese, 1½ pounds; butter, 4-5 pound; oranges, 17¾ pounds; lean beef, 4½ pounds; Eggs, 5 pounds; oatmeal, 1½ pounds; oysters, 13 pounds; potatoes, 10 pounds.

Put these amounts or required quantities in values of dollars and cents, and diet for a single day will cost:

Milk at 10c a quart	$0 46
Cheese at 30c per lb.	0 45
Butter at 40c per lb.	0 33
Beef at 25c per lb.	1 12
Eggs at 35c per doz.	1 13
Oatmeal at 4c per lb.	0 06
Oysters at 60c per qt.	3 60
Potatoes at 6c per lb.	0 60

From these figures, we cannot help but agree with authorities who have made the statement that people can afford to pay 20c. a quart for milk, if they can pay 25c. a pound for beef.

In these days of high prices we should realize the important food value, the deliciousness and great economy of dairy products.—R. McCann.

You Can Make Excellent Cake With Fewer Eggs

Just use an additional quantity of Royal Baking Powder, about a teaspoon, in place of each egg omitted.

This applies equally well to nearly all baked foods. Try the following recipe according to the new way:

CREAM LAYER CAKE

Old Way	New Way
1 cup sugar	1 cup sugar
½ cup milk	1 cup milk
2 cups flour	2 cups flour
2 teaspoons Royal Baking Powder	4 teaspoons Royal Baking Powder
3 eggs	1 egg
½ cup shortening	2 tablespoons shortening
1 teaspoon flavoring	1 teaspoon flavoring

Makes 1 Large 2-Layer Cake

DIRECTIONS—Cream the sugar and shortening together, then mix in the egg. After sifting the flour and Royal Baking Powder together, two or three times, add it all to the mixture. Gradually add the milk and beat with spoon until you have a smooth pour batter. Add the flavoring. Pour into greased layer cake tins and bake in a moderately hot oven for twenty minutes. This cake is best baked in two layers. Put together with cream filling and spread with white icing.

Booklet of recipes which economize in eggs and other expensive ingredients mailed free. Address Royal Baking Powder Co., 2 St. Lawrence Boulevard, Montreal.

ROYAL BAKING POWDER

Made from Cream of Tartar, derived from Grapes

Made in Canada **Absolutely Pure** **No Alum**

Priestleys' Priestleys'

IN this year of world-wide scarcity of woolens and dress goods we are glad to be able to supply a remarkably fine assortment of

Priestleys' DRESS GOODS

Whether your fancy runs to Blacks or Blues or Colors, Wool or Silk-and-Wool Material, in heavy or light weights—you can satisfy your taste in Priestleys'.

Remember Priestleys' Dress Goods are the World Standard. Insist upon having nothing but Priestleys'.

Look for the name on the selvedge.
At all the better dealers.

Greenshields, Limited

Victoria Square Montreal

Priestleys' Priestleys'

The Hidden Hand

One of the vilest features of Germany's villainous policy prior to the war was the widespread system of espionage maintained by the Kaiser's Government. As a result of this system, not only was confidential information of every conceivable kind transmitted, but the effort was continuously made to represent the Germans as a mild and peace-loving people who would not harm a neighbor for any consideration.

It was organized deceit on a gigantic scale. It was the Hidden Hand working insidiously upon the vitals of unsuspecting nations.

The occurrence of occasional mild attacks of constipation or stomach trouble often indicate the Hidden Hand of fatal disease working upon the vitals of supposedly robust people.

That dull headache, that spasm of nausea, that feeling of lassitude and despondency, that loss of appetite, that sharp pain in the pit of the stomach—any or all of these seemingly simple symptoms may be evidence of the Hidden Hand creating a condition of chronic disease.

The safe method is to combat these symptoms with that tried and tested remedy—Parmelee's Vegetable Pills. These pills have been proved wonderfully effective in restoring the stomach and bowels to the condition Nature intended them to have. Their effect upon the digestive organs is exceedingly beneficial, as they promote an even flow of bile while at the same time they relieve constipation by their gentle, yet positive action on the bowels.

Don't neglect simple symptoms. They have a meaning. They are Nature's warnings. But be careful to avoid harsh purgatives. Remember, Parmelee's Vegetable Pills have been doing their work for many years, during which time they have earned the unstinted commendation of thousands of people whom they have restored to the full vigor that accompanies good digestion.

Price 25 Cents a Box.

At All Dealers and Druggists.

Made only by

Northrop & Lyman Co., Limited
TORONTO, ONTARIO

Do You Want More Money?

Let us show you the way to increase your income to any extent you desire. If your present salary isn't quite sufficient to take care of "extra needs," our plan will provide the money for them.

Now is just the time to start. Turn your evenings and spare time into cash.

Full particulars on request.

The MacLean Publishing Co., Ltd.
143-153 University Ave., Toronto, Ont.

Honey, Bees and Birds

How Bees Recognize Each Other

That bees recognize each other principally by the sense of smell is the conclusion of N. E. McIndoo, of the Bureau of Entomology. "It is certain," he says, "that a queen gives off an odor, and it seems reasonable that the odors from any two queens would be slightly different. All the off-spring of the same queen seem to inherit a particular odor from her. This odor, called the family odor, perhaps plays little or no part in the lives of bees, for it is certainly masked by the other odors. Drones seem to emit an odor peculiar to their sex, but little can be said about it. It seems certain that each worker emits an individual odor which is different from that of any other worker. It is also probable that the wax generators and nurse bees emit odors slightly different from those of the field bees.

"Of all the odors produced by bees, the hive odor is probably the most important. The hive odor of a queenless colony is perhaps considerably different from that of a colony which has a queen. The absence of a queen odor in the hive odor probably explains why the workers in a queenless colony are irritable and never work normally. All the bees—workers, queens and drones—of a colony carry the hive odor of that colony on their bodies among the hairs. This odor serves as a sign or mark by which all the occupants of a hive 'know' one another."

Eat Honey

Honey is better than sugar. It is more easily digested. It can be used in place of sugar or syrup. Enough honey goes to waste each season on every farm to relieve the high price of sugar in the home. Let the bees save this waste. In most recipes, honey can be substituted for sugar with an improvement of the finished product. Conditions incident to the war point to a sugar shortage, so it is important that beekeepers increase the yield of honey. This can be accomplished by enabling the bees to more thoroughly pasture every acre of cultivated or waste land.

A few good stands of bees on every farm will help increase the yield of fruits and other crops by the distribution of pollen from blossom to blossom besides storing surplus honey. Where there is a continuous supply of honey-producing plants, such as fruit, berries, linden, white and sweet clovers with the numerous wild flowers throughout the season, above fifty pounds or more of surplus honey can be secured per colony. An apiary of a dozen colonies in standard ten-frame hives with proper care will average fifty gallons of honey a year.

How Birds Save the Farmer

I know one farmer in particular who lost, during one summer, three rows of corn forty rods long, says C. C. Clute in *Our Dumb Animals*. The corn grew next to a fence row heavily sodded with blue grass, which produced swarms of grasshoppers. For the sake of experiment alone, for this farmer was a skeptic, last spring he put up twenty-one bird-houses, placed two rods apart on the fence along the forty rods. The houses were some that he and the boys had made during the winter months, from dry-goods boxes obtained in town. Thirteen of the twenty-one houses were inhabited during the following summer, six by wrens, four by bluebirds, and three by colonies of purple martins.

The grasshoppers that summer made a rich living for the birds, and when the fall came, that farmer had the satisfaction of gathering twenty-three bushels of corn from the three rows that grew next to the fence, right where there was no corn at all the year before. With corn selling at fifty-five cents per bushel, it represented a saving of $12.65 for that year.

Ontario Bees

Morley Pettit's Report for Ontario shows 24,425 colonies of bees in Ontario, showing a 10% loss over last fall. The greatest number of colonies is found in Middlesex county, with Lambton coming second. The smallest number is found in Durham of the older counties, and Durham is a big fruit-growing county. What is wrong?—C.

Progress in Manitoba Bee Keeping

The honey bee in Manitoba is falling beautifully into line with the "increased production" campaign. Mr. R. M. Muckle, Provincial Apiarist, Manitoba Department of Agriculture, who has this spring visited quite a number of the apiaries of the province, reports a large expansion in beekeeping. Mr. Muckle has on file the names of between 40 and 50 beginners who will this spring make their first start in beekeeping, and altogether he has brought together, through his office, buyers and sellers of about one hundred and seventeen colonies.

A little booklet, setting forth the work of the Manitoba Beekeepers' Association, and giving advice to beginners in beekeeping, has just been printed by the Manitoba Department of Agriculture, and may be had free upon application to Mr. R. M. Muckle, Parliament Buildings, Winnipeg.

A Big Bee Farm

At "The Bee Farm," owned by Charles Stewart, ten miles south of Gladstone, Man., there are over 75 hives of bees in a sheltered nook on his farm. Visitors frequently go there, and demonstrations are occasionally held at the farm.

U.S. Honey Crop

Winter losses of bees for 1916-17 in the United States have not been quite so heavy as during the previous two years.

The total number of working colonies on hand is 1.5 per cent. greater than last year. Honey plants are poorer this year owing to the cold spring.

THE FATHERS OF CONFEDERATION

A reproduction from the official painting of the men who formed the conference at Quebec at which the agreement between the various provinces was reached. The original, unfortunately, was burned in the fire which destroyed the House at Ottawa last year.

MILTON BRICK

Before You Build

See our Rug and Pressed line in Variegated colors. They have outclassed any brick on the market and are specified by Leading Architects.

Write for Samples and Prices

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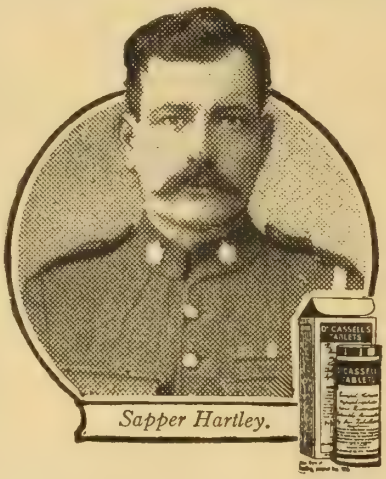
Kept Fit Through Two Wars

Ontario Sapper Praises Dr. Cassell's Tablets.

That a soldier should use and praise Dr. Cassell's Tablets is clear proof of the wonderful sustaining power of this great strength-giving medicine. And thousands of service men on land and sea are trusting to Dr. Cassell's Tablets to sustain them through all the hardships of relentless war.



Sapper Hartley.

SAPPER A. HARTLEY, OF THE A. COMPANY, CANADIAN ENGINEERS, whose home address is **906, TRAFALGAR-STREET, LONDON, ONTARIO,** is one of many who have written in praise of Dr. Cassell's Tablets. He says:—"As a constant user of Dr. Cassell's Tablets I would like to add my testimony to their value. I used them when I was in the South African War, and, finding the benefit of them there, have taken them since whenever I felt run-down. I always recommend them, for I know they do all that is claimed for them. In my opinion they are the best tonic anyone can take for loss of appetite, poorness of the blood, or general weakness of the system. We have had a lot of hard training here, and some time ago I began to feel the strain, but I got some Dr. Cassell's Tablets, and the boys are surprised at what a difference they made in me. I mean to have some with me always on active service."

Dr. Cassell's Tablets put new life and vigour into weak, overstrained people. They nourish the nerves, enrich the blood, strengthen the general system, and create that snap and fitness which make life a joy. Take a course of them, and health and vital energy will soon be yours.

Dr. Cassell's Tablets

FREE SAMPLE.
On receipt of 5 cents to cover mailing and packing, a generous free sample will be sent at once. Address: Harold F. Ritchie & Co., Ltd., 10, McCaul-street, Toronto.

Dr. Cassell's Tablets are Nutritive, Restorative, Alterative, and Anti-Spasmodic, and the recognised remedy for

Nervous Breakdown	**Sleeplessness**	**Mal-nutrition**
Nerve Paralysis	**Anæmia**	**Wasting Diseases**
Infantile Weakness	**Kidney Trouble**	**Palpitation**
Neurasthenia	**Dyspepsia**	**Vital Exhaustion**

Specially valuable for nursing mothers and during the Critical Periods of life.

Sold by Druggists and Storekeepers throughout Canada. Prices: One tube, 50 cents; six tubes for the price of five. War tax, 2 cents per tube extra.

Sole Proprietors: Dr. Cassell's Co., Ltd., Manchester, Eng.

Women's Organizations

A Full Year's Work by St. George Institute

The Institute has a membership of seventy-four, and has held ten regular meetings during the year. Occasionally they have another Institute visit them and supply the programme. The Alford and Park Road Institute came and gave the programme in October, and at another time the St. George Institute visited the Glenmorres branch. Certain features of work are taken up by specialists in the community during the year; for instance, Dr. Reed discussed Medical School Inspection; Mrs. Nixon took up Flour and Bread-making; Mrs. Addison gave a paper on Present Day Needs.

Most of the interest, however, has been given to Red Cross work, and to seeing that the St. George soldiers are supplied with comfort. The Institute has shipped to the Red Cross Society, 78 trench caps, 55 hospital shirts, 12 binders, 25 convalescent robes, 315 pyjama suits, 7 doz. surgical pads, 162 doz. bandages, 203 doz. face cloths, 737 pairs socks, 99 comfort bags, absorbent cotton, gauze, soap, towels, etc. They have been sending overseas from 50 to 65 parcels monthly, containing socks, soap, candles, handkerchiefs, boot laces, condensed coffee, condensed milk, chocolate, sardines, peanut butter and shortbread. The Institute's total receipts for the year were $1,794.99, the expenditures, mostly for Red Cross and other patriotic work, $1,766.06.

After the community had been canvassed for patriotic funds, fifteen per cent. of the monthly contribution was voted to the Institute to buy goods to make up into Red Cross supplies. In this way they have $150 a month to buy yarn, flannel, etc., and the Institute members do the knitting and sewing. They find that they can make up more than $150 worth of goods each month, however, and they supplement their funds by voluntary contributions, dramas, and last summer they ran an ice cream parlor, clearing $200 in the four months.

The Institute has been the means of having medical inspection in three schools in the district, and they are planning to hold a clinic. They took advantage of the Demonstration-Lecture Course in Sewing last winter, having a special class for the girls, and have recently formed a girls' club in the Institute, the "Junior Alerts."

County and Township Councils Give Institutes Money for Red Cross Material.

In Lincoln county the county council gives each Women's Institute a donation of $100 whenever they need it, to buy material to make up into Red Cross supplies. That is, as fast as an Institute can knit or sew $100 worth of yarn, or material for shirts and hospital garments, the council is ready to forward another grant to buy more material.

In Ontario county the township council of Pickering township gave each of the six Institutes in the township $100 to buy

Red Cross supplies. This has been invested in yarn and flannel for socks and shirts which the Institutes have made up. In one farm home the mother and four little girls have knit six pairs of socks a month during the past year.

Institute Members Discuss Household Thrift

Institute members might profit a great deal by spending a half-hour or so at each meeting in the discussion of ways of living more economically, and of saving waste in the home. For an example of how helpful this exchange of ideas may be, at a recent meeting at Claremont, a very clever farmer's wife told that she always sifted the finer bran from the supply brought from the mill for feeding to stock, and made a few bran loaves with each baking of bread. She also gave the following recipe for a brown bread made without yeast and where neither shortening nor eggs are required.

Two cups bran, 2 cups white flour, 1 cup brown sugar, 1 cup sour milk, 1 teaspoon soda, 1 teaspoon salt.

Food for Belgian Children

Stephen Leacock, who has been lecturing in Canada and the United States, to raise funds for starving Belgian children, last month gave a lecture in Meaford under the auspices of the Women's Institute. The Institute is to be congratulated on the privilege of bringing such a fine type of entertainment to their community, as well as helping in one of the most appealing lines of relief work.

Caring for Cemeteries

This spring the Whitfield Women's Institute set apart three afternoons and cleaned up the three cemeteries of the town.

Eat Cottage Cheese

Cottage cheese is one of the important meat substitutes, say specialists of the United States Department of Agriculture. It contains a larger percentage of protein (the chief material for body building) than most meats, and furnishes this material at a lower cost. In every pound of cottage cheese there is about one-fifth of a pound of protein, nearly all of which is digestible. A pound of cottage cheese daily would supply all the protein required by the ordinary adult engaged in a sedentary occupation.

Cottage cheese at from 12 to 17 cents per pound is much cheaper than most meats in furnishing protein for the diet. For supplying protein, one pound of cottage cheese equals: 1.27 pounds sirloin steak; 1.09 pounds round steak; 1.37 pounds chuck roast beef; 1.52 pounds fowl; 1.46 pounds fresh ham; 1.44 pounds smoked ham; 1.58 pounds loin pork chop; 1.31 pounds hind leg of lamb; 1.37 pounds breast of veal.

In addition to protein, energy for performing body work must be furnished by food. As a source of energy also cottage cheese is cheaper than most meats at present prices. On the basis of energy supplied, 1 lb. cottage cheese equals:

8 1-3 ounces sirloin steak; 11¼ ounces round steak; 11¼ ounces chuck rib beef; 10¾ ounces fowl; 5½ ounces fresh ham; 5 ounces smoked ham; 6 ounces loin pork chop; 7 1-3 ounces hind leg of lamb; 12¾ ounces breast of veal.

OVER 600 Imperial tank stations dot the Prairies and the Eastern provinces, so located as to give the quickest service to the farmer. There is one near you. The agent at that station will give you courteous, prompt attention, will tell you the right oil for each machine on your farm.

AN OIL FOR EVERY FARM MACHINE.

For Gasoline Engines, Tractor, Auto or Stationary.
POLARINE OIL
STANDARD GAS ENGINE OIL

For Kerosene Engines, Tractor or Stationary.
POLARINE OIL HEAVY
IMPERIAL KEROSENE TRACTOR OIL
(Recommended by International Harvester Co.)

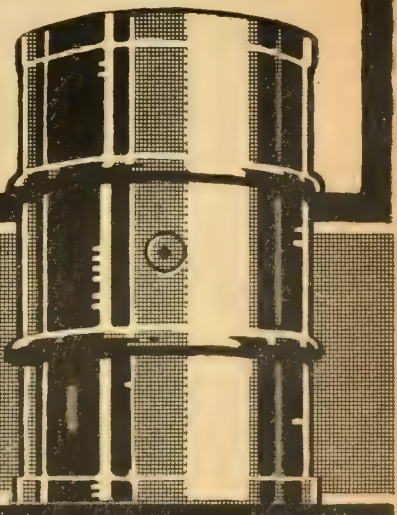
For Open Bearings of Farm Machinery.
PRAIRIE HARVESTER OIL
—very heavy body, resists cold, won't thin out with moisture.

ELDORADO CASTOR OIL
—a thick oil for worn and loose bearings.

For Steam Cylinder Lubrication, whether Tractor or Stationary Type.
CAPITOL CYLINDER OIL
—the standard product for steam cylinder lubrication.

For Grease Cup Lubrication of Bearings.
THRESHER HARD OIL
—a clean, solidified oil, high melting point.

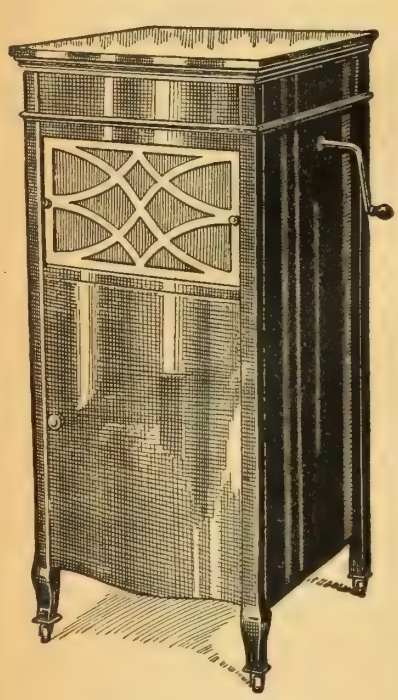
All our oils are supplied in steel barrels and steel half-barrels — convenient, economical. No waste. You use every drop you pay for.



The Imperial Oil Company Limited
BRANCHES THROUGHOUT CANADA

Five Large Phonographs

Splendid Prizes in Bread-Making Contests at Rural School Fairs in Ontario



The Pathephone

Five of these large cabinet phonographs, each with twelve records, given as first prizes in District Contests. Value, $150. Size, 20 in. x 20½ in. x 44 in. high.

At the Rural School Fairs to be held all over Ontario this fall, one of the greatest events will be the breadmaking contests, conducted under the auspices of the Campbell Flour Mills Company. The girls of the whole province will watch this contest with keenest interest, for $2,000 worth of splendid prizes are to be won by girls between the ages of 12 and 18 years who bake the best loaves of bread with Cream of the West Flour. In this announcement we tell all about the conditions of the contest. Read them carefully; also read the full descriptions of prizes on the opposite page. Then decide to enter this contest, for every baking day counts between now and fair time.

For the Grand Prizes we offer five splendid big phonographs like the one pictured here. Isn't it a beauty? It costs, with records, no less than $150. You will agree that such a splendid prize is well worth any girl's while to try for with enthusiasm. Think of the fine times you could have with this lovely instrument, your friends coming over of an evening to listen to big bands, orchestras and fine singers. Or you can stir things up by putting on a funny record if you like. All you have to do, if you wish to try for the phonograph and the other splendid prizes described on the opposite page, is to bake one loaf of bread, under the conditions explained below, with

Cream of the West Flour

the hard wheat flour that is guaranteed for bread

If you are going to use good flour for your bread-baking, why not have "the very best"—Cream of the West. It makes big, bulging loaves of the wholesomest, whitest, lightest bread that will make you proud of your baking. We know that once you try it you will want to use our flour all the time.

Everyone can get Cream of the West Flour. If your grocer or dealer doesn't happen to have it, write to the Campbell Flour Mills Co., Ltd., Toronto, and you will promptly receive a letter telling you the nearest place to get it in your neighborhood.

Five Pathephones are now packed up in Toronto ready for the names and addresses of the fortunate winners. The Province will be divided into five districts. On opposite page see list giving the counties in each district.

Here is the plan: First of all you compete at your local Rural School Fair. If you win first prize you automatically become a competitor for the phonograph. The judging for the district prizes will be done by Miss M. A. Purdy, of the Department of Flour Testing and Breadmaking at the Ontario Agricultural College, Guelph.

Isn't it well worth while to start right away to use Cream of the West Flour? Whether you win a prize or not your time is well spent; nothing makes you a good breadmaker sooner than to enter a contest. That is why parents everywhere urge their daughters to enter this contest. Here is the list of prizes:—

Prizes at local Rural School Fairs—For the best loaf of bread baked with Cream of the West Flour the following handsome books are offered:—

1st Prize—Girl's Own Annual.
2nd Prize—Stories of Famous Men and Women.
3rd Prize—Britain Overseas.
4th Prize—The Queen's Gift Book.

Note.—Unless the entries number more than six, the number of prizes will be reduced to three at any local fair. Be sure to read full descriptions of these prizes on opposite page.

The District Prizes.—If you win first prize at your local fair you automatically become a competitor for the Pathephone without any further work on your part. One-half of the first-prize loaf is sent to Guelph to compete against the other first prize winners in your district.

1st Prize—Large Cabinet Pathephone with 12 records. Total value, $150.00.
2nd Prize—Set of Dickens' Works, 18 volumes.
3rd, 4th and 5th Prizes—Canuck Bread-Mixers.

Note.—See full description of Prizes on opposite page.

CONDITIONS OF CONTEST

Every girl may compete, whether or not she attends school, providing that her 12th birthday occurs before November 1st, 1917, or her 19th birthday does not occur before November 1st, 1917.

One loaf of bread, to be baked from Cream of the West Flour, must be properly entered at your local Rural School Fair, 1917, accompanied by the part of the Cream of the West Flour bag which shows the face of the Old Miller. A certificate or entry form must be signed by the girl competing and by a parent or guardian; this certificate will state the name, date of birth, post office address and name of dealer from whom Cream of the West Flour was purchased. The entry form will also declare that the loaf was baked only by the girl in whose name the loaf is entered in the contest. These forms will be available at the time of the local Rural School Fair.

The breadmaking contest for the local prizes will be part of the local fair program. It will be judged and prizes awarded the same as for the other regular contests at the fair. The decisions of the Judges will be final.

Not more than one entry may be made by each girl, and not more than one local prize awarded to the same family.

Each loaf must be baked in a pan about 7 x 5 inches and 3 inches deep, and divided into twin loaves, so that they can be separated at the fair. One-half of the loaf will be cut at the School Fair and the judges will announce the winners there, and prizes will be delivered as soon after as possible. The remaining half of the loaf winning first prize will be shipped afterwards to the Ontario Agricultural College, Guelph, where it will be judged by Miss M. A. Purdy, of the Department of Flour Testing and Breadmaking. Loaves shipped to Guelph, will, of course, not be returned.

The Local Representative of the Department of Agriculture, who has charge of the Rural School Fairs in his district, will attend to the shipping to Guelph of each First Prize Loaf from each fair. A container will be furnished him for this purpose, and that is one reason why it is necessary to have the loaves of bread as nearly uniform size as possible.

The Standard upon which the loaves will be judged will be as follows:—

1. Appearance of Loaf	15 marks
(a) Color	5
(b) Texture of crust	5
(c) Shape of loaf	5
2. Texture of Crumb	40 marks
(a) Evenness	15
(b) Silkiness	20
(c) Color	5
3. Flavor of Bread	45 marks
(a) Taste	25
(b) Odor	20

Remember these when baking your bread. Each girl should practise baking as often as possible between now and the date of your school fair, but, if possible, the loaf to be exhibited should be baked the day before the fair so that it will be fresh for shipment to Guelph if it win a place in the Provincial contest.

The results of the District Contests will be announced as soon as possible after the conclusion of the Rural School Fairs in the Province. See opposite page for list giving the counties in each district.

The Campbell Flour Mills Company, Limited

See opposite page

WEST TORONTO, ONTARIO

Descriptions of the Prizes in Bread-Making Contests

More than $2000 in Pathe Phonographs, Attractive Books and Bread Mixers!

First District Prize

The Pathephone is one of the best phonographs in the world and sells in Canada for $135. Together with the twelve records that go with it, the total value mounts up to $150. How we wish we could exhibit this beautiful instrument in every neighborhood. Were it possible, there would surely be an avalanche of entries everywhere.

We chose the Pathephone for its magnificent reproduction of music in tone so true, so full, round and natural as to create the feeling that you are listening, not to a machine, but to the living voice.

The Pathephone will play any flat disc record. Special needles are provided which permit of the best results being obtained.

And what a fine-looking machine it is! Just look at the design. The wood is rich mahogany, highly polished and beautifully finished. Inside are compartments for keeping the records.

Second District Prize—Set of Dickens' Works

People who know Dickens' books will tell you they read his entrancing stories not only once, but several times. Who can read about Oliver Twist's or Little Nell's extremely interesting adventures without being moved in the very depths of feeling? Few figures are more intensely funny than Mr. Pickwick and Sam Weller. And this set includes no less than eighteen beautiful volumes cloth-bound in blue with gold titles, good paper and clear type. The books are all profusely illustrated.

Third, Fourth and Fifth District Prizes—Canuck Bread Mixer

Women who use the bread mixer say it makes bread-making one of the easiest tasks of all in the home. A little child can easily turn the handle, and this little operation you will agree is very much easier than handling many pounds of dough several times and kneading it. How simple just to put in the ingredients and turn the handle for three minutes! That is all the "hard" work you do when you have a Canuck Bread Mixer. Besides, it saves washing up many utensils, it makes the bread rise more evenly, and it is the cleanest method known.

First Local Prize—The Girl's Own Annual

Here is a great, big, fascinating book just teeming with the things that girls love. There are nearly 800 pages of stories, special articles about the world's famous people, descriptions of women's work in the war, travel, all sorts of curious facts, stories and information about books, art, curiosities, flowers, gardening, birds, animals—all the things that you like to read about. The stories of romance, love and helpfulness to others are particularly fine. Besides, there are instructive departments dealing with crocheting, sewing, fashions and home problems. There are dozens of illustrations. Make up your mind now to win this book.

Second Local Prize—Stories of Famous Men and Women

You have heard of the world-famous Jenny Lind, the sweet singer to whom Queen Victoria threw a bouquet—of Flora MacDonald, the brave Scotch lassie who risked her own life to save "Bonnie Prince Charlie" when a price was put upon his head for leading a rebellion in Great Britain, one hundred and sixty-two years ago—of Grace Darling and Florence Nightingale, the heroines of history who won undying fame for their sacrifices on behalf of the suffering—and the beloved Queen Victoria. This book tells all about their romantic careers in the most engaging language. And these are but a few of the many famous women and men told about in this lovely book. It is a large volume with many colored pictures and drawings. 320 pages, heavily cloth bound with gold titles.

THE GUARANTEED FLOUR

"Each loaf must be accompanied by part of bag which shows the face of the Old Miller."

Third Local Prize—Britain Overseas

This book tells all about the Empire, about its heroes who won it for Britain, their battles, their peaceful conquests, and the strange peoples of which outlying parts of the Empire are composed. This splendid book is beautifully illustrated with pictures in many colors, is heavily cloth bound.

Fourth Local Prize—The Queen's Gift Book

Our good Queen Mary has founded a haven in England for the brave soldiers who have been disabled. This book was designed to help the good work. Great Britain's most famous writers were glad to contribute their stories to it, also many of her great artists, whose splendid paintings and drawings are shown in all the original colors. There are stories by James Barrie, Hall Caine, Arthur Conan Doyle, Jerome K. Jerome, Gilbert Parker, Ernest Thompson Seton, Mrs. Humphrey Ward and others. It is beautifully bound in blue, has 158 pages.

No Competitions in Counties Named Below

The competition is open to all parts of the Province where Rural School Fairs are held, except the districts of Rainy River, Kenora and Thunder Bay. These three districts are the only parts of the Province where school fairs are held under the auspices of the Department of Agriculture, in which this competition will not be a feature. There are no district representatives of the Department of Agriculture in the Counties of Huron, Perth, Wellington, Haliburton, Prescott, Russell or Lincoln, and no rural school fairs are held in these Counties under the supervision of the Department of Agriculture. We regret, therefore, that the competition cannot include these Counties.

Decide Now

If you are of the proper age, decide now. Every bread-making day counts. Start now to practise with Cream of the West Flour, the splendid hard wheat flour that makes such splendid bread. Parents should encourage every girl to enter who can, thus stimulating interest in good bread-making. Get a supply of Cream of the West Flour from your dealer and know all about its superior qualities. Every baking between now and your rural school fair day may teach something that will help you win the Pathe Phonograph or one of the other splendid prizes. Decide now—Practise.

Here are the districts into which the Province has been divided and the counties each district contains:—

District No. 1—Counties of Glengarry, Stormont, Dundas, Grenville, Leeds, Frontenac, Lennox and Addington, Carleton, Lanark, Renfrew.

District No. 2—Counties of Hastings, Prince Edward, Peterboro, Northumberland, Victoria, Durham.

District No. 3—Counties of York, Ontario, Peel, Halton, Wentworth, Oxford, Brant, Waterloo.

District No. 4—Counties of Welland, Haldimand, Norfolk, Elgin, Kent, Essex, Lambton, Middlesex.

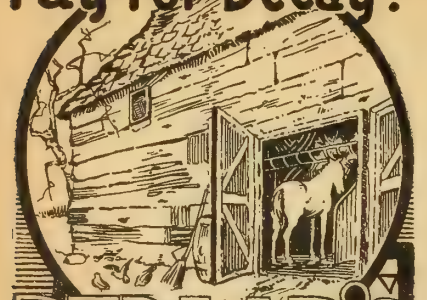
District No. 5—Counties of Bruce, Grey, Dufferin, Simcoe, Districts of Muskoka, Parry Sound, Timiskaming, Algoma, Sudbury, Manitoulin.

The Campbell Flour Mills Company, Limited

WEST TORONTO, ONTARIO

See opposite page

How Much Do You Pay-For Decay?



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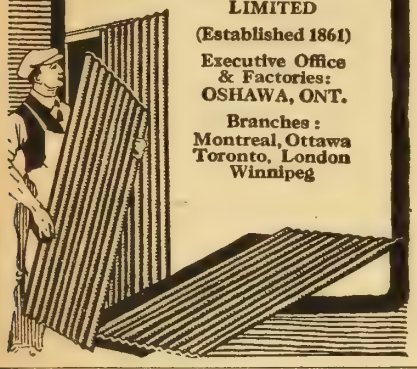

Prepare to Fall Plow

A better plowed Canada this fall than ever before should be our slogan. The world faces starvation and next year will see it not much better off. Now is the time to get busy about the 1918 crops. The ground for fall wheat should be plowed as early as possible. Then work it as much as possible, top-dressing with manure, lime, and commercial fertilizers if possible. What is worth doing is worth doing well. You cannot take any chances with $2 or $3 seed grain. It is seldom that a poor piece of wheat happens on a well prepared seed bed.

Moreover, fall ploughing for next year's spring crops, especially in Eastern Canada, is most essential. The better working we give the soil this fall, the surer we are of crops next year.

To this end, we need implements and power. The gas tractor is getting in fast, but it ought to go faster. We need fully 2,000 for Ontario alone. It is just as important that these tractors be put out as it is that munitions be hurried forward. Agriculture must be assured of help, machinery and available money. Now is the time to push the old chariot along.

—Grasmere.

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An immense area of the most fertile land in Western Canada for sale at low prices and easy terms ranging from $11 to $30 for farm lands with ample rainfall—irrigated lands up to $50. One-tenth down, balance if you wish within twenty years. In certain areas, land for sale without settlement conditions. In irrigation districts, loan for farm buildings, etc. up to $2000, also repayable in twenty years—interest only 6 per cent. Here is your opportunity to increase your farm holdings by getting adjoining land, or to secure your friends as neighbors. For literature and particulars apply to Allan Cameron, General Superintendent of Lands, Department of Natural Resources, [illegible] First Street East, Calgary, Alta.

In the Hay Field

Cut clover when a third of the heads show a dull brown.

Do not cut more clover at one time than you can handle easily in making.

Clover may be put up in the coil quite green.

Alfalfa should all be in the barn by July 1st.

Sweet clover is harder to cure but stock like it even if it is a little discolored.

Hay cut in the morning, if tedded in the afternoon, can be brought in the next day, if the weather is good.

Use a little salt with each load of hay as it is put into the mow.

Early-cut timothy is tender, well-flavored, easily masticated and digested.

If Nebuchadnezzar ate grass it must have been alfalfa, and alfalfa meal is good eating for man and beast.

If one succeeds in getting a great weight of hay cut with seed fully ripe, he has little if any better than so much straw.

Rank clover should be cut a little on the early side rather than on the late and then never stacked if it can be helped.

Many successful feeders cut their timothy meadows before they bloom.

Never leave timothy after the second bloom.

The test of right curing of clover is when one can not by hand-twisting of a wisp of hay cause any moisture or exude.

Save on the labor shortage by hay forks, hay tedder and hay loader. Neighbors might well double up and charge rental for machines one happens to have.

Grasmere farm cut its timothy hay last year and drew it in with hay-loaders from the swath and then baled it. Cattle and horses devoured it greedily.

I bought clover hay last year from a stock for sheep and horses. It was coarse and rank. Nothing liked it. It was not worth $5 a ton. Oat-straw well saved would have been better.

Couch grass if cut early does not make bad hay.

In cutting oat and pea mixtures for

hay, cut just as the grain begins to turn from the green. Make it like other hay and haul in to barns in as good shape as possible.

Slough hay and beaver-meadow hay can be cut much later than the cultivated grasses and still retain its goodness. These grasses contain a high percentage of protein. Prairie farmers and ranchers cut them when they get time and stack them in well made stacks for winter feeding.

Farm Dairying

Spraying with a fly oil will increase the milk and butter returns.

Cleanliness in pails, tubing, stables and the milker's person means a lower bacterial count.

Better farming properly lays great stress on clean milk.

The man who keeps a dairy herd is doing his bit well.

Milk products are the cheapest diets yet.

A separator in an empty cow stall is in a mighty bad place.

It pays to always milk the cows in the same order. Milk as nearly as possible at the same hour.

Clover is the next best thing to corn for the silo.

A good grain mixture proves to be a fine pasture crop for July.

One of my neighbors keeps 25 cows on his 100 acres, and pastures them on a grain mixture, sweet clover and has a big corn acreage for the silo. He makes over $100 per cow per year.

The small auto truck for delivering milk to the station is being used by many.

Watch daily all cows' udders for defects and troubles.

Some hired men have their interest increased by getting a bonus for a low bacterial count in the milk.

Harvesting Implements

Harvest begins this month and delays mean losses.

Get the binder ready. Don't trust to a poor canvas, but have a new one ready for emergency.

Re-place any broken knife sections and tighten up all bolts.

It may pay to have a gasoline engine fitted to the binder, if you have much cutting to do. One team of horses can then do the pulling surprisingly well.

Are your wagon tires loose? A painting of the felloes with hot linseed oil will preserve them.

Have plenty of oil for all bearings and save oats, harness and morals.

Be sure that there are no weak spots in the hay fork apparatus. Wire up all places likely to cause a slip and accident.

Clean out, sweep, patch with tin and tighten the granary the first spare day you have. You can't afford to feed mice and rats this year.

In the Fruit Garden

The fruit should be thinned after the June crop. If this is done better and bigger fruit will result next fall.

Use Bordeaux mixture on the blackberries, raspberries and dewberries. The entrance of anthracnose can be prevented to a great extent by keeping the young trees well sprayed.

Spray the cherries, peaches and plums with a sulphur wash to prevent the brown

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The value of your horses depend upon their condition. Gall sores are depreciative. *Remove the cause by using Ventiplex Pads.*

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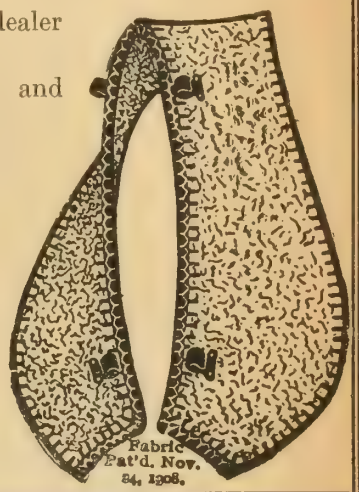

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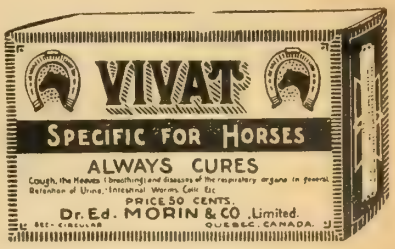

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rot. Dilute the concentrated solution until the specific gravity is 1.06.

Spray with lime-sulphur on apples and pears to prevent apple scab.

Spray gooseberries with potassium sulphide, adding an ounce to a gallon of water to prevent mildew.

Use hellebore on the currants and gooseberries after the fruits are half grown.

Curculios do considerable harm to plums and quinces. The way to get rid of them is to jar the trees early in the morning. This jarring is done by means of a stout pole, the end of which is wrapped in burlap or old blanket.

Grape vines need spraying also. In order to protect the grapes from birds mosquito netting should be thrown over the vines.

To secure better and bigger fruit, thin peaches, pears and apples. It costs very little more to pick the fruit now than in the fall, and it will pay in the quality of what is left.

Keep the orchards cultivated until the middle of July, and, at the last cultivation, sow crimson clover, buckwheat or vetch as a ground-cover. This will also tend to help the trees ripen their wood.

Among the Bees.

July swarming is quite undesirable. Return it to the colony if you can after 24 hours.

Early made honey can be taken out in July, but all honey is better to be left to ripen well.

When honey is coming in rapidly, a super will be filled quickly.

Honey is one way to cheapen the living.

In the Vegetable Garden

To maintain a succession, sow wax beans, beets and sweet corn early in the month.

There is still time to set out cabbage, cauliflower and celery plants. Of course, these follow some early crop.

Cucumbers planted now will make pickling ones.

Spray potatoes with Bordeaux solution and Arsenate of Lead to poison the bugs. They will need spraying every ten days to keep the bugs in check and the new vines covered.

Cover the stems of the pumpkins and squashes every few feet, at the joints with soil so they will take root.

Cultivate the asparagus bed to keep down weeds.

In the Flower Garden

You can grow asters with success if you will water the soil from time to time with tobacco water to keep root aphis away.

Make the last planting of gladiolus bulbs about the first of July. These bulbs will flower during the early fall.

The sooner seeds of perennials are sown the better. Late-sown seeds will not produce plants large enough to winter-over safely. Do not do it later than July 15. This includes pansies, English daisies, foxgloves and Canterbury bells.

If necessary, spray the rose plants with potassium sulphide or with ammoniacal carbonate, to prevent mildew and blackspot.

Mulch the soil with strawy manure or other litter, to insure the roses and other shrubbery from suffering from drought. Even then, water may be necessary. Be very careful to see that the rhododendrons and azaleas are protected from drought. More plantations are killed by summer's drought than by winter's cold.

Cut off your sweet peas from the vines. Pulling is liable to injure the plant by disturbing the roots.

Do not allow your sweet-pea plants to suffer from lack of water. Mulch the ground around them with lawn clippings or litter, to keep the ground cool and moist.

The dahlias should be staked, in order to prevent their being blown over or otherwise damaged by the high winds.

Prune all the spring-blooming shrubs.

In the Power Shed

Keep the auto tires fully inflated, as nothing kills a tire quicker than half-filled ones. Use a pressure gauge.

A small tire cut should be cleaned with gasoline and repaired with gum.

Lubricating oil softens rubber, so keep tires from standing in oil in the garage.

Sudden stops and skidding are death to tires.

Safety first should be the motto for every farm driver.

The auto saves many dollars for the farm and allows of many pleasure trips.

Saving in care of the car and other ways will offset the high price of gasoline.

Farm tractors are selling fast in Ontario.

The help problem is forcing consideration of power farming.

Do not leave the tractor exposed to weather when not in use.

Keep your eye on the coming tractor demonstrations.

Write us about your engineering troubles. Our experts will answer your queries free of charge.

In the Poultry Yard

Don't adopt cruel methods to break up broodiness of hens that insist on occupying the nests in hen-houses. Of course, they are particularly a nuisance at this time of the year, for it is too late to set them.

Your fowls should be especially prepared, by proper food and care, for the ordeal of the molting season, which is close at hand.

Pushing the growing chicks through July, so that they will mature quickly, will be found, later on, to be a profitable precaution.

Watch that the growing chicks do not become stunted by being overcrowded in their quarters.

Fresh water all the time, and plenty of it, is absolutely essential to healthy fowls. Give a variety of feed; not much corn, though, as it is heating.

Fight vermin especially hard during July. If it has a foothold in your hen-houses, determine to eradicate it at any cost. One good way is to saturate everything—roots, nests, etc.—with zenoleum, and then close it up and smoke thoroughly with sulphur. Keep the house closed for several hours.

Fall Wheat Seed

What is the best-yielding variety in your section

Watch the fields for a good stand and engage your seed now.

Save all straw indoors after threshing if possible.

Sow lime if your farm has had none for years.

Nursing as a Profession

By NELLIE D. McKENNEY

What Steps Are Necessary for the Girl Who Wants to Enter the Profession

WHAT steps should I take to become a trained nurse? Would you advise a girl to take up this work? What are its possibilities as to income? These are a few of the questions I am frequently asked. It is evident that no cut and dried answer can be fired promiscuously at the ever-increasing number of girls who aspire to become nurses. It is individuality that counts for success or failure in the nursing world as in any other sphere of endeavor. The girl who has this important matter under consideration should ask herself: "Am I physically strong enough to stand ten hours of exacting work each day seven days in the week for a period of three years? Is my mental equipment such that I can maintain a calm equilibrium under trying conditions, make quick decisions in present emergencies and anticipate future ones? Am I morally sound, strong on patience, tact, and obedience and honesty? All these are absolutely essential to the successful nurse. If she finds herself able to give satisfactory answers to the foregoing interrogations the nursing profession stands wide open for her.

Assuming that she has definitely decided that her future vocation shall be that of a nurse, her first inquiry will be, "Where will I train?" I have had this question put to me scores of times, and comparatively unimportant as it may seem at first thought, I am convinced that this is one of the things that should receive special emphasis. Invariably I advise every girl who seeks entrance to the training school of a hospital to send her application to only the best. Many are attracted by the advertisements of certain institutions that hold out wonderful promises to the aspirant, who, if she is gullible enough to accept them carte blanche will surely become wiser though sadder as a result of her experience. As a matter of fact, those that maintain desirable training schools for nurses, do not advertise. They don't have to. If a girl applies for entrance into one of the schools, she will find a long waiting list with herself at the bottom. This should not, however, discourage her. When her turn comes she will be given fair and courteous treatment. When, in due time, the long hoped-for graduation comes, she will have a standing in the profession that will prove a desirable asset in securing future employment. So any girl, before settling the matter of "What school shall it be?" would do well to consult some reliable physician as to the wisdom of her choice. He will appreciate the situation, and in most cases will be able to give her much valuable advice.

When the probationer makes her initial bow to the duties of a hospital, it will not be long before she is impressed with the idea, that every person from the physician-in-chief to the most humble personage in authority, is leagued together to instil in her the importance of sanitation. Cleanliness is a nurse's first law. While she may be perfectly willing to admit this from the beginning, she will have positive proof of it before her first year is at an end. No matter how particular has been the home training; the spotlessness of mother's floors, the brightness of her silver, the dustless condition of her furniture will avail the daughter nothing here. It is taken for granted that mother was the sanitation expert—that the former has yet to win her spurs.

The probation period usually lasts about three months. The beginner, who has had a taste of the prescribed duties will know whether she has judged aright her adaptability to the nursing profession, or the hospital authorities will. It is right here that quite a considerable number bir their adieus, and the hospital world knows them no more. Perhaps it is better thus, as this sifting-out process is a pretty accurate gauge of those characteristics that are considered essential.

With her acceptance into full fellowship, as it were, she receives instruction and is expected to do practical work in the taking of temperatures and caring for patients. To this, is likely to be added a term of night duty. Then, it is, that she begins to feel that some progress is being made and that she is on the way to become a nurse.

The second year brings with it new studies and as she becomes proficient in these other responsibilities are placed on her shoulders. Hence, the theories that she learned from books and by means of lectures, are applied in every-day practice. The adjective "trained," as it is used to distinguish the graduate-nurse, is intended to be taken literally, for in no professional school is the practical more emphasized or the lack of it in less repute. Nor can it be said that the course is monotonous. It is as varied as the diseases to which mankind is heir, the injuries that require a surgeon's attention. In the different departments, dietary, surgical, obstetrical, etc., an allotted time is spent, that she may become familiar with the best methods. As the various scientific mysteries gradually unfold, there are few girls who are not fascinated with the work. The manual side ceases to be drudgery, for with the broadening of experience and a more intelligent conception of the day's work, they come to view the commonplace with a truer discernment.

Finally, on reaching her third year of training, the student-nurse becomes a person of some importance, and is known about the wards and among her associates as a "senior." If her ability and trustworthiness have proven satisfactory, she may be given charge of a "floor" or a certain department of the institution, and as a mark of distinction wears a black band on her cap. In this capacity as a head nurse, she has an opportunity to show executive ability that not infrequently is the forerunner of a lucrative engagement in connection with her alma mater, or a similar institution.

But after graduation, what? The girl who has invested three of the best years of her life in vocational training has taken many a long look ahead to the day, when, may hope to derive therefrom a reasonable income. Perhaps, ninety per cent. of the graduate-nurses turn their attention to private work. The demand is increasing rapidly, of late years, not only in the cities, but in villages and country places. People of all classes are fast recognizing the difference between trained workers and the neighbor or relative, who comes in to help out—oftentimes someone who knows absolutely nothing about caring for the sick and who simply adds to the confusion of an already much confused household. There is perhaps, no department of nursing where the nurse can use broad-mindedness to such good advantage as in private work; for she has to deal with all classes and conditions of people, from the tiny tot to childish old age, the ignorant and the cultured, the rich and the poor.

In order to insure employment as a private nurse, it is customary to establish a connection in the profession, by means of a nurses' registry. As there are different grades of these, the graduate-nurse will do well to discriminate in favor of one that is backed by the hospital serving the district in which she wishes to carry on her occupation. This may be done in return for a small fee, and is very essential if one desires to be kept busy. Physicians in the regular course of their practice, look to these institutions to supply them with nurses for their critical cases. It frequently happens that capable work will cause doctors to insist on having the same nurse whenever possible. A reputation earned in this way will often insure constant and profitable employment. The beginner, however, must, as a rule, pin her faith to the registry, taking her turn with a score or more of others. When she returns from a case she again registers, at the bottom, and again takes her turn, which, as a matter of fact, usually comes quite as soon as she is sufficiently rested to go at it again. The income derived from private nursing, while not large when compared with the responsibility assumed, is better than can be earned in many other positions open to women. It varies in different parts of the country, but usually averages from $20 to $25 a week.

It sometimes happens, however, that a girl is better adapted both constitutionally and temperamentally for institutional work. Such positions are generally the result of exceptional ability that has brought the nurse into direct contact with some leading physician who recognizes her special talent to be just what he is looking for. In most cases of this kind, executive rather than technical skill is the qualification sought. Ordinarily, the salary will be in the neighborhood of $50 a month, including board and other perquisites, which make it practically equal to that received by the private nurse who is kept tolerably busy.

But, aside from being a fair financial proposition, there is another desirable feature of the nursing profession. While it takes one into homes of all kinds and conditions of people, one is continually making friendships, some of which prove of the most lasting character. Personally, I feel this is one of the chief rewards that nursing has to offer. The nurse who habitually tries to maintain a sunny disposition along with an honest effort to perform her duties well may rest assured that her investment in the great market of life will return rich dividends.

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The Benches, Penticton, B.C., with Dog Lake in the distance

To Prosperity by the Truck Route

By J. HUGH McKENNEY

FIFTEEN years ago George W. Bycroft was a farm hand in Southern Ontario. The boss admitted that he was a good one, and as one who has watched his subsequent career I am convinced that the compliment was deserved. By the time he was twenty-two he had managed to save his first $100. Then he got married. Certain pessimists might have considered this a catastrophe, but they would have reckoned without a fair valuation for Mrs. G. W. Like Abe Lincoln's client, that one hundred dollars plus his newly acquired better half inventoried high in the column of assets. So, too, thought John D. Graham, the owner of a sixteen-acre tract on the banks of the Thames River. Graham wanted to sell his land; he also wanted to give George a chance. The upshot of the matter was, the young man became the purchaser, contracting to pay for his real estate possessions in yearly instalments.

What has been said must be considered as a prelude to the real story. It, however, serves to give a glimpse of the inherent grit and common sense of the young couple as Graham saw them—a combination that laid the foundation of a successful business. That the land was paid for may be readily anticipated. How it was done, it is the province of this article to explain.

THINK AND PLAN FIRST.

The first step was to look the situation over carefully and decide what line would be the most profitable. Previous to this, their experience had been entirely in connection with the general type of farming. On their own little farm it was evident that they must become specialists if they were to accomplish anything worth while. By actual measurement, it was found that six acres were taken up by the river bank which was too steep for cultivation besides being covered with a thick growth of pines and other second growth timber. These would serve as an effective windbreak, and furnish them with the necessary fuel and lumber indefinitely, if some system of conservation were adopted. Even more important was the fact that five miles up the river was the city of London with a population of 70,000, always clamoring for fresh, crisp garden products. One or two truckmen on adjoining farms were doing well at marketing their crops in the city, and their advice, coupled with a promise of more when needed, prompted George to make his debut in that sphere of action.

For a time the lack of equipment limited his operations to out door gardening. This was, however, managed so that a succession of crops coming on the market kept the cash inflow going regularly. In a little three-cornered piece of land, embracing a quarter of an acre, and rather inconvenient to be included in the rotation, an asparagus bed was started. During several weeks in early spring this patch yields a yearly average of $130. In the meantime radishes and spinach are sown; then come lettuce, beets, cabbage, potatoes, tomatoes, melons and celery. All of these crops do well on the sandy loam of the Bycroft land.

TOMATOES HIS HOBBY.

It is, however, with tomatoes that he is best known in his own community. Several years ago a neighbor crossed the Earliana with the Champion. From the resulting yield he selected one tomato that seemed to possess valuable possibilities. Not having time to carry on the work farther he handed over to George a portion of the seed with a request that the latter undertake its development. The new variety, which was christened the Byron Pink, in honor of his home town, has since become a favorite with the growers in the vicinity. It possesses the important characteristic of combining the firmness of a good shipper with the desirable flavor that is usually found in only such varieties that are retained for home consumption. Besides this it is of a smooth type, thus eliminating waste, is prolific in yield, and a good keeper. With all these popular features secured, George has won considerable recognition at the fall fairs.

His method of trellising the tomato plants as they near maturity is unique

and has attracted many visitors to the farm. Instead of tying the tomato plants to stakes driven in the ground, he puts down good strong posts, with the end ones well anchored, upon which are stretched taut three or four ordinary fence wires. These wires support the plants, allowing sun and air to penetrate through the hedge-like rows much more readily than when bunched in a mass around stakes. As a result there is more uniformity in size and in the time of ripening.

THE CONSUMER PAYS FOR QUALITY.

"The consumer, nowadays," observed George, "is mighty fastidious about quality. Under ordinary farm conditions, vegetables are apt to be tough, stringy, more or less bitter or possess some other undesirable characteristic. The expert grower plans to remedy this defect by forcing a rapid growth, which usually produces the desired result. We, therefore, keep our soil well filled with manure besides a liberal application of commercial fertilizer carrying ammonia, phosphoric acid and potash."

At this juncture, he called my attention to a couple of celery patches. One had been heavily top-dressed with commercial fertilizer and was entirely free from blight. The other patch, which had not received the top-dressing, showed a decided contrast, being badly damaged. "I want to tell you," continued George, "how my attention was first directed to using artificial fertilizer more generously. I had hired a tramp to help out in a busy season, and left him to apply some fertilizer to a patch of cabbage. Upon inspection, it was found that he had used double the amount planned. At first I feared the crop would be seriously injured, but was agreeably surprised to find that this particular patch yielded better, was earlier and of better quality than any other on the place."

The principal crops grown under glass reasons, had to be delayed for several years was how to get a start with indoor gardening in order to capture a share of the winter trade. By the steady demands for his products during the summer and fall, some money had accumulated, that encouraged him to make a move in the desired direction. Being handy with tools, and having a pretty large bump of self-confidence he decided to erect a small greenhouse 50 by 18. With the aid of his regular help this was successfully accomplished, including the pipes and heater. The actual cash outlay for materials was about $250. Later another house of equal dimensions costing practically the same, adjoining the other, was put up.

WHAT HIS GREENHOUSE DOES.

The principal crops grown under glass are onions, lettuce, tomatoes and cucumbers. Rhubarb is forced in a cellar under the house. Not long since I found George and his wife bunching up the stalks for the next day's market. On offering to help I was told that each bunch must weigh a pound—no more, no less. Gathering up seven or eight stalks I laid them on the scales, expecting to add a few more until I got the desired weight. To my surprise it was necessary to remove three of them to reduce my estimate to an exact pound.

"Why don't you make your bunches big enough to sell for even money," I asked.

"Oh, we do," laughed Mrs. Bycroft.

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"It's worth ten cents a pound; the old cellar will make us $200 this year."

Undoubtedly much of George's success is due to the river that flows past the farm. In it he has an inexhaustible supply of water with which to supply his crops. This is pumped up by means of a gasoline engine and distributed where needed by the Skinner system of irrigation. About two acres of garden is watered in this way, the equipment being installed complete, at the rate of $100 per acre. It is seldom that a dry spell, more or less extended, does not occur. The necessary moisture secured insures that the crops thus watered are kept in the pink of condition. Moreover, there is a great lessening of labor. "I've had a couple of men spend a whole day with a hose and nozzle and then not do as good a job. With the Skinner, the question of labor is entirely eliminated, which is certainly an important factor nowadays.

As "the proof of the pudding is in the eating" so the test of one's farming methods is in the revenue produced. Hinting as much to George he readily consented to give me free access to his books. These were well kept and he was able to tell at a glance what each crop had earned in dollars and cents during any year, together with the cost of production. The following is his annual statement of gross receipts for the year ending November, 1916:

November, 1915	$ 107.90
December, 1915	97.25
January, 1916	23.10
February, 1916	90.00
March, 1916	176.95
April, 1916	282.80
May, 1916	76.40
June, 1916	286.09
July, 1916	510.52
August, 1916	504.58
September, 1916	182.70
October, 1916	61.00
Cash prizes	60.00
	$2,449.29

The foregoing statement does not include several miscellaneous amounts received for apples, potatoes, etc., that would easily add another $100 to the total.

With a growing business established on a sound basis, George now feels justified in seeking a measure of relaxation. First a new greenhouse of larger dimensions and modern type is to be erected. This is to be followed by a comfortable bungalow for himself and family, while the present dwelling will be given over entirely to help. With them the truck route has proven a safe and satisfactory one for reaching the goal of prosperity.

Growing Mushrooms

By D. WILLIAMS

MUSHROOM growing is not largely an element of chance as some seem to think. They have been grown in European countries affording large returns. With proper care and correct conditions they are no more difficult to raise than a crop of potatoes.

For some time a couple of young men near an Ontario town have been producing mushrooms in a cellar with fair results, but, of necessity, the scope of their operations was very limited. Their experiments, however, convinced them that the industry could be placed upon a commercial basis.

After settling upon a location that was considered suitable they proceeded to construct a building specially adapted for the work.

There are five main features that have to be regarded in any case. They are: First, proper temperature; second, correct moisture; third, proper comfort; fourth, suitable premises properly constructed; fifth, good spawn. The proper temperature is about 65 degrees.

A cellar 100 x 22 feet was excavated and a cement wall 12 inches thick erected with a cement floor. The wall extended one foot above ground, and had drive doors at one end and 2 windows at the other. A low ridge roof was put on and a ceiling of tight board above which sawdust was put in order to keep out the cold and heat. Two ventilators take off the gases. The drainage system prevented any water lying in or near the walls. Water is a deadly enemy of mushroom culture.

In the matter of moisture great care has to be observed. It is said that a drop of water on a sprout is fatal to it. Thus the application of moisture is one of the difficult problems. If the beds are correctly prepared and the temperature kept right, this is not so difficult a matter as one would imagine. In case the growing beds become too dry about the only method of applying moisture is in the shape of vapor.

THE COMPOST HEAP.

The method pursued by Collins Bros. is about as follows: A place is selected that is free from insects. If practicable it is better to be under cover. A quantity of fresh horse manure is secured. This should not be more than two weeks old. It is first mixed with about one-third its quantity of loam free from gravel or stones. This is laid down in a layer about ten inches in thickness. It is then well watered, evenly distributed, after which it is tramped or tamped into a compact mass. Another layer is then added and the same operation repeated; then a third layer is laid on top of this and tamped or tramped after being well watered as the others had been.

The pile is left for a week, when it is torn out and the operation repeated. It is then allowed to stand another week, after which it is again torn out and similarly treated, then allowed to stand one week more. In handling the compost care should be taken to retain in it as much of the urine as possible as this is said to contain a very essential element necessary in the growth of mushrooms.

When the heap has stood a week after its third treatment it is ready for the beds, as by this time it is thoroughly decomposed and all foreign matter has by the process of heating and fermentation become incorporated into one mass.

In the preparation of the floor or base of the building for the spawn beds different methods are pursued. Some cement

the bottom and make the beds flat, while others are made on what is called the French or mound style. In this the clay on the bottom of the excavation is piled up against the wall on either side to a height of about two feet, slanting down to the bottom five feet away. This forms two beds, one on each side of the bottom. Then another mound is built in the centre about ten feet wide and inclining each way. The height of this mound and its incline are the same as the ones against the wall.

PLANTING.

When the thermometer in the bed falls to 70 degrees the spawn must be immediately planted in small pieces about one inch or a little larger in size and one foot apart. These will soon germinate and spread all through the beds. It will take about five or six weeks before they begin to come through and another ten days before the mushrooms are fully developed. They will not all come at once, but may continue to produce for three or four weeks. As they mature they are picked and shipped to market.

As soon as the beds have ceased producing a crop the compost is removed and can be applied on land as a fertilizer, but cannot be used again for mushrooms. A fresh compost must be prepared in the same manner as the first, and this has to be repeated with each crop.

It is in removing the old mould that the advantage of the flat beds and concrete floors are found, it being easier to shovel the compost off these floors than clay ones.

One of the advantages of this branch of industry is that it can be made continuous. By planting and preparing at proper times the crop may be made to yield its fruit at all seasons of the year, thus bringing to the grower a steady income.

It is a business, however, that no amateur would be wise to plunge into without some practical knowledge, which can only be obtained by experience. This can best be had in the way these young men found it by commencing on a small scale and gradually working into it.

Contagious Abortion

A LETTER from Dr. Torrance, Veterinary Director General of Canada, shows what success has been made in their experiments to combat and control contagious abortion in cattle.

Experiment I.—Four heifers, aged one year were inoculated with our protective vaccine January 26th, 1915. The test of the blood of these heifers showed that one of them was already infected with the bacillus of contagious abortion, and all four were living in a herd in which the disease was known to exist.

The four heifers were bred on the following dates: April 21st, April 23rd, April 23rd, and December 18th, 1915. They all calved, the dates being respectively January 26th, January 26th, January 12th and September 11th, 1916.

Experiment II.—Ten yearling heifers were inoculated March 20th, 1915, four of which reacted to the test for contagious abortion. They were bred after an interval of about three months. (Accurate dates cannot be given in this case, as the herd records were destroyed by fire.) All became pregnant; eight carried their calves to full term and produced living offspring; two aborted.

Experiment III.—Four heifers, yearlings, were employed to test a method of employing a serum as well as a vaccine. With the first two, the serum and vaccine were used simultaneously; with the second two, the serum was given ten days prior to the vaccine. When tested, the first two had reacted to the test; the second two did not react. The first two were bred December 16th, 1915, and August 25th, 1915, and both aborted—July 12th, 1916, and April 16th, 1916. The second two were bred December 23rd, 1915, and November 9th, 1915, and produced living calves September 20th, 1916, and August 5th, 1916. This experiment was unsatisfactory and gave conflicting results, but shows that the simultaneous method of giving serum and vaccine did not prevent infected heifers from aborting.

Experiment IV.—In this experiment an effort was made to find out how far the vaccine treatment would prevent abortion in cows which had previously aborted.

Eight cows were selected, ranging from two to seven years of age. All had previously aborted, one of them three times, the others once. All but one reacted to the test for contagious abortion. None were pregnant when inoculated nor bred afterwards until some weeks had elapsed. The result showed six cows producing living calves at full term; one cow proved to be barren and was slaughtered; and one cow reacted when the herd was tested with tuberculin and was slaughtered, having previously aborted.

The method used in this experiment was a double inoculation with a mild vaccine first, followed by a strong vaccine several days later.

Experiment V.—Four cows, aged two to seven years, and four yearling heifers were used. The cows had all aborted previously, one of them twice, the others once. Three of them reacted to the test for contagious abortion. All were treated by the double method, and were bred after a suitable interval with the following result: One of the cows, the one that had aborted twice previously, aborted again. All the others produced living calves.

These experiments have resulted in obtaining 27 living calves from 34 cows and heifers in badly infected herds. This encourages us to hope that we have a really useful method of producing immunity to the disease, and we are anxious to enlarge our experience by extending our work to other herds.

With this object, we now offer to treat free of charge a limited number of herds in which contagious abortion is present. Owners are requested to make application in writing to the Veterinary Director General, Ottawa, stating the number of breeding females in the herd. Applications will be dealt with in the order of their receipt.

Rural Mail Delivery

Continued from page 45.

were summed up in the weekly paper, an occasional letter, a patent medicine circular. But what a change! Now the daily papers come to the farmers' doors, more letters are sent and received. Those young people whom we desire to keep on the land appreciate the new conditions, along with the telephone, the automobile, and scientific farm methods. I recall travelling through Ontario a few years ago, and very often asking the rural citizens why they did not take a daily paper. The reply was that the mail arrived perhaps weekly or tri-weekly. The farmer of to-day is a reader and thinker. His work is the very corner-stone, the prime fundamental of our national progress. Why should he then not enjoy the very best possible and necessary service?

As already stated, the chief objection to rural mail delivery is the monetary demand, but even this can be largely met by the application of strictly business principles, and elimination of any extravagant methods which might be advantageous to a few individuals, while serving as a millstone to a service which the country really needs. I would not be guilty of suggesting that the Government appoint another commission to study more closely the rural mail situation, but the importance of the work demands a constant thoroughness, a wise and tactful handling.

In endeavoring to secure first-hand information regarding the system, I found a number of minor objections, constructed chiefly on sentimental or selfish grounds. Some people residing along the main township thoroughfares claim that they miss the familiar old stage. They forget about their neighbors on the cross-roads and by-ways, who never get a sight of the "dear old stage," but who now see frequently the new rural wagon as it stops at the gate. Of course the farmer may miss his trip to the village on a rainy day, but, instead thereof, he can be making needed repairs to barn or shed, which may be equally interesting and more profitable. Other folks, who would gladly discard the new service, are some of those living close to the wayside post-offices where perhaps they were able to procure groceries and kerosene from the postmaster-merchant. And once more, the little village, where the postoffice was located, is often not in love with the new order of things. (The little village vs. the farming community.) However, this is only human nature with the gloss rubbed off. But these and other minor faults will vanish as the mists before the morning sun, if the great principle of rural service can be economically carried forward, as we believe it can.

But the law of averages must to some measure atone. Postal service, like many other public utilities, can never be exactly just. Some people pay for what they do not receive, and others receive that for which they do not pay. The development of a public spirit, free from selfishness, will go a long way toward the ultimate success of rural postal delivery. The new rural outlook must take precedence, because "where there is no vision the people perish."

How to Cut Roses

There is a right and a wrong way to cut roses. The choice of the latter may seriously injure the blossom-producing properties of the plants, it is pointed out by specialists of the United States Department of Agriculture. This applies particularly, of course, to rose plants chosen and grown especially for cut-flower production. Such roses will be largely of the perpetual blooming sorts.

When a rose is cut from such plants—tea roses or other perpetual bloomers—only two or three eyes of the current season's growth of that branch should be left on the plant. This should give the roses very long stems. Succeeding blossoms should be cut close to the ground. It will seem like destroying the bush to take so much off it, but if the object is the production of roses, the cutting away of the surplus wood will attain the desired end.

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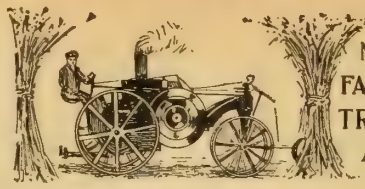
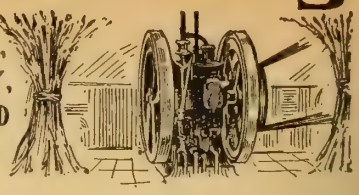


MOTORS, ENGINES, FARM MACHINERY, TROUBLE LOCATED AND REMEDIES SUGGESTED.



Can I Use Kerosene?

By R. M. GORDON

"WILL my gasoline engine burn kerosene as a successful fuel, without a re-adjustment of the construction?" This question we are sure has been asked this magazine many times, as it has been asked every agricultural magazine of the country the past few months. We will attempt to answer it as fully as possible, that any farmer who is puzzled with this question—and it is a momentous one at the present time—will understand what he can and cannot do in the matter of substitution of fuels for an internal combustion engine.

For a set rule, without "ifs and ands," do not expect to burn kerosene in a gasoline engine. Your gasoline engine, to burn kerosene successfully must primarily be constructed to burn the latter. This does not mean that engines burning gasoline will not burn kerosene. Get the distinction. There are many engines on the market to-day, and among them are some of the most efficient, that will burn kerosene as a fuel, and do it well, but they are designed for that purpose.

Substituting kerosene in a strictly constructed gasoline engine has never been a success, and so far as the best mechanical minds of the present day can conceive, never will be. This statement is made irregardless of the claims of some manufacturers who say they have such an engine, but not as yet on the market.

Therefore, the conclusions to be drawn are these: kerosene will not be a success in an engine built primarily as a gasoline engine. Kerosene can be used efficiently in an engine built for both gasoline and kerosene. The construction of the two are different.

The present almost prohibitive price of gasoline has brought this question home to thousands of Canadian farmers. Many have attempted to transpose their gasoline engines into kerosene burning ones. Some have met with indifferent success, while a majority have failed. Is it to be supposed that an operator of an engine can accomplish that upon which many firms and experts have expended thousands upon thousands of dollars and years of effort? That is what has been expended in an effort to perfect a carburetor that will burn kerosene and gasoline equally successfully.

The result is that the construction of a kerosene engine varies greatly from that of a gasoline engine. They are two distinct types. This is only natural from the fact that the fuels themselves are of such a different nature.

Kerosene is not volatile, that is, it does not easily evaporate at ordinary temperatures. Therefore, vaporizing is difficult, it does not mix with the air and recondenses very easily. All of which makes it hard to get a proper mixture of air and kerosene in the cylinder, and to keep it any length of time.

On the other hand, gasoline is volatile, that is, it is a ready mixer, is light enough to remain in the air indefinitely and thus can be drawn into the cylinder. Remaining thus, and not recondensing as does kerosene, gasoline compresses and fires at the proper mixture. Gasoline obtainable to-day tests at from 60 to 80 degrees, while kerosene, of the best kind, seldom exceeds 50 degrees.

One will often see warning to the effect that compression while burning kerosene should be carried much lower than with gasoline. This seems strange to the uninitiated, considering the above facts.

Notwithstanding the fact that kerosene is not as volatile as gasoline, still, when it is properly volatized and mixed with air, it fires at a much lower temperature than does gasoline. A mixture of air and gasoline will not explode at a compression of from 70 to 80 pounds the ordinary compression given the average gasoline engine), without an electric spark from the ignition system to touch it off. At the same compression, with a kerosene and air mixture, a preignition would occur, and compression must be brought down to 50 to 60 pounds to the square inch, if the operator believes in "safety first."

Many readers have no doubt seen in operation the present-day type of small farm tractor, for which it is claimed that either fuel will burn equally as well. By investigation, one will find that in a large majority of cases the engine is built specifically to burn either fuel. Such provision is made at the outset. Compression in such engines is placed at a point not too high for kerosene, nor too low for gasoline, if both fuels are going to be used. Also, if you ever took the trouble to ask, you no doubt were told that in a majority of cases it was recommended that water be added to the kerosene in operation. This, it will be seen, is for the purpose of cooling the engine internally, to avoid preignition, as mentioned above.

There is another reason why water is added to kerosene. It is claimed by many that the chemical constituents of the water combine with the free carbon produced in the combustion of the engine, forms a highly inflammable gas, which in turn increases the combustion of the engine. This is a question that even the greatest engine experts in the country are undecided on, so it may be accepted as such. It is true, in this connection, however, that water added to kerosene does

prevent to a certain degree the deposition of carbon inside the cylinder.

It will be interesting to watch the many experiments being carried on over the country in an effort to produce an engine that will burn kerosene and gasoline equally as well, with the same carburetor, and without readjustments found necessary now.

The wonderful results of the various processes being worked out now, of reducing kerosene to gasoline, and similar experimentations along these lines make it highly probable that in the near future farmers will have access to the lower-priced fuel for burning in a gasoline engine of the present type. In the meantime, if your engine is a gasoline engine, burn gasoline. If it is a kerosene-gasoline one, of which there are few outside of farm tractors, know where you are at. If real success in using kerosene is desired, buy an oil-burning engine.

How Your Auto Generator Works

In most cars nowadays, the generator is the primary source of all the current used in the car. It supplies the electricity to charge the storage battery, to ignite the charges of explosive mixture in the engine cylinders, and to light the lights, under certain conditions.

The generator consists of two essential parts, a revolving part, called the armature, and a stationary part, called the field. The armature consists of a frame of iron on the shaft, carrying windings of copper wire. These windings are all brought out to a device at the end of the armature, just inside of one of the end bearings, called the commutator. The electric current is generated in these windings, as they revolve, and led out to the commutator, from which it is collected by carbon brushes, bearing upon its surface. These brushes are stationary, being generally fastened to the end bearing plate of the generator. From the brushes, the current is led out to the various parts of the automobile where it is to be used.

The field consists of a magnet, usually of the general shape of a horseshoe, between the poles of which, the so-called magnetic field exists, and the armature revolves. The current is generated as the armature conductors revolve in this magnetic field. The field magnets are usually electro-magnets, that is, iron, with current carrying windings of copper wire. These windings magnetize the field magnets, to make them carry out their functions.

In connection with the standard automobile generator is an automatic switch, which makes a circuit whenever the engine runs fast enough for the generator to operate properly, and allows the current to flow from the generator. When the speed drops below the operating point, the switch is again automatically opened so that current will not flow backwards from the storage battery into the generator.

Some machines have a separate generator for the ignition, called the magneto, which is entirely separate from the starting and lighting system, and furnishes exclusively, except sometimes for starting, current only for ignition.

Some cars also reverse the generator function and also use the generator as a motor to start the engine, the generator automatically beginning again as the engine comes up to speed.—F. E. Andrews.

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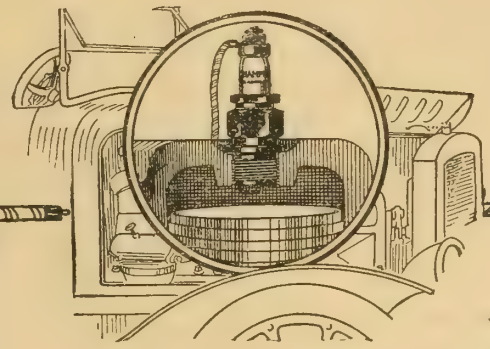

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contribution to the clamour, but the mothers sitting down in the shadows with their boys back in the lines standing rigid and weary at attention, were strangely silent. The speaker gathered her draperies about her, a little elf of a girl handed her a sheaf of roses, and in the general stir which followed, a few of the women from the farms got up a bit stiffly,—they were not used to sitting so long at a time—and looked about for their men to go home. It was, in the press of the spring work and they hadn't had time to do the milking before they came.

Billy was there, and he had listened with all his logical faculties active. When she finished he began to move towards the gate; it was his last leave and he had plans for the next day which meant a great deal to him. There was more than enough time to catch the car to the city, but he just naturally found himself going. The band had taken a stand close to the pavilion and was starting up a waltz, and, well—, it was too much like pouring honey into a cup of hemlock. At the edge of the crowd he suddenly found Marjorie right in his path but looking the other way.

"Oh," she gasped, "you frightened me."

He didn't apologize because he knew he hadn't frightened her. "I was just getting off to catch the car," he explained.

Miss Evison was disappointed. She had pointed out the good-looking soldier to a few of her girl friends, with a mysterious half-promise of a story, later. She had counted on this evening for days, and had rehearsed several delicate little speeches and a touching but very proper farewell. She hadn't anticipated being confronted with a new man. It would have been highly satisfactory if he had shown a sign of the end-of-everything bitterness, generally supposed to be appropriate under the circumstances, but this cool, friendly indifference was more than any girl could stand from a man who had proposed to her not six months before. He was holding out his hand and saying:

"I may not see you again before I go."

She softened at once.

"You're not going yet," she coaxed. "I simply can't let you go yet," and when he showed no sign of staying, she added rather sharply "I don't believe I ever knew you to be in such a hurry before."

He smiled kindly and happily as one might over an episode of childhood.

"I have to get back to the city," he explained patiently, "We're going out to see the old place to-morrow."

Miss Evison wasn't used to disappointments and they made her temper very uncertain.

"Are you taking Miss Macdonald with you?" she inquired.

"Yes." He seemed modestly proud that she should guess it.

She was ashamed the minute the question was out, but that he should fail to resent it was maddening, and when she was angry she forgot to be elegant. She was smiling in a way that was not beautiful, and she said.

"You know I wouldn't have thought from the exalted opinion of her you used to have, that she'd have fallen for the soldier stuff."

There was nothing gratifying to her vanity in the way he looked at her. He was angry, of course, but more evident was the surprise of disillusionment. It seemed as though for the first time he saw her as she was and hated to believe it.

"You don't mean that, honest?" he said. He put his big toil-hardened hand on her shoulder, very gently. It was a rather remarkable hand, strong and capable and intelligent looking, and it had steadied many other people to be honest, but it was unthinkable that he should presume to take such an attitude of fatherly disappointment in her conduct. So she looked at the hand until he took it away, and she said good night with as much dignity as the situation and her temper would allow.

She was still in this frame of mind when she met Dr. Knight a few minutes later, but then she was beginning to know Dr. Knight pretty well by this time, and it was impossible to avoid such things constantly.

"What's the matter?" he inquired casually.

"I had arranged to have Mr. Withers meet the girls, but he seemed to feel that he had other things more important. He's taking Miss Macdonald out to see some farm or something to-morrow. He always did have a craze for that."

Dr. Knight on close acquaintance dropped all his drawing-room talk and expressed some very plebeian views of things. His direct observations now was,

"She's the kind of girl who'd make him a great wife."

"Yes," she agreed, "the kind of girl whom every man advises every other man to marry, but never thinks of marrying himself."

The doctor studied his fiancée with the candid speculation of a man endeavoring to adjust himself to an engagement which somehow seems to have happened without his planning. He was not ill natured but perfectly frank.

"What a little cat!" he said.

It was not easy for Billy to go back to the Swamp farm. Since the day he nailed up the shutters of the empty house, he had avoided the place as much as possible; there were things about it which he didn't like to remember, but looking back now, and knowing something of what was ahead, it would have seemed a fair place to live out his days. The shortcomings seemed to be within himself.

"It seems I've been living in two worlds," he said to Ruth when Jean left them, "I've hurried through here and tried not to think. I haven't faced things. There seems to be something most ungratefully selfish in human nature. We get an idea that we want a certain thing, and if we can't have it we curse Fate for her heartlessness. We never think how our self-centred ambition is hurting someone else,—generally someone who is waiting to give us something worlds better than that which our deluded fancy has idealized. Whatever failures I might make Jean would still believe in me, and I've neglected her shamefully. Thank heaven, I hadn't had my head so badly turned while my mother was here, but I've almost forgotten some of the things she left with me to do and it's too late now to make up for it. I'm glad I'm going, of course. Since I know more about what things are like for the men who've been there from the first without a furlough, and those who've been wounded and are back in the worst of it again, half sick, and weak and fed up on it. I can't see why I'm not there now,—but I'll always feel that I've left a lot of things at home unfinished.

"It's the same with the work I might have done. A lot of us have been misled by our ideas of 'rural leadership.' We know that the country needs leaders who can see clearly, and who have the courage to make their visions materialize. We have big plans for the country, but we're afraid to go right out to the land and take its risks and steady, commonplace toil. Those of us who grew up there learned something of the beauty and irrevocableness of its natural laws, and a lot of its hardships and cruelties. When we went away to study how to overcome the hard things, which should not be, an insidious influence in the new environment resulted in a kindly ridicule or patient tolerance of the simplicity of these natural laws.

"I remember one day before I ever left the farm, when I was plowing in this field, a lark flew over my head, called twice and disappeared. It was in the spring, and the scheme of things seemed very perfect and simple to me then. That fall I went to college and the artificial crept in. When the war brings men up against the elemental things, suffering and quick death and endurance and sacrifice absolutely devoid of self-interest, I wonder if it will give them a higher regard for the genuine in everything. And if it does, will it make them so vastly more primitive, that when it comes to the old human longing for a mate and a home, the kind of woman they want, the woman with dreams and a sensitiveness to the finest things, will find them changed, and be afraid to cross the gulf between them? What do you think?"

"I don't think 'the woman with dreams' has ever been afraid of the natural things." Then she stopped. It seemed simple enough after his experience, that he should want to dig into such questions for the ease of his own soul, but it was hard to talk about them at all and keep her own feelings covered. So she looked away and very practically broke off. "Anyway no one can see these things in generalities; you only know how you feel yourself."

Then she found that he wasn't interested in generalities.

"I'm afraid that's really what I wanted to know," he said. "How would *you* feel about it?"

To be continued.

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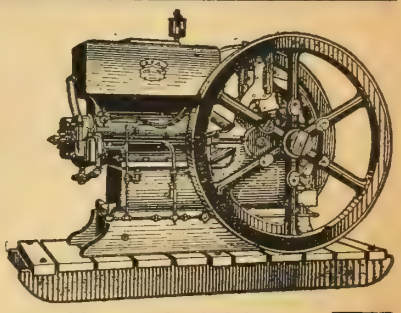

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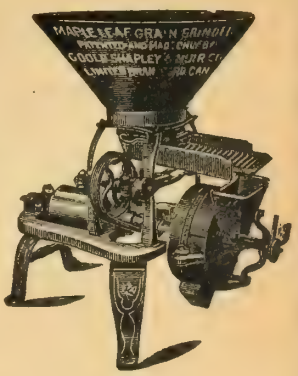

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Getting a Start in B.C.

By JOHN STONE

WHEN a resident of Eastern Canada or the Prairie Provinces reads an article on agriculture in British Columbia, his thoughts turn instantly to the sunny valleys of the Okanagan and Kootenay districts, or the fat dairy farms of the Fraser river delta.

These favored regions are not all that the Coast Province has to offer the home-seeker. To the man with little or no capital their many advantages are unobtainable on account of the high price of fruit and farm lands.

In the past few years an immense acreage of timber land has been logged-off in the coast district of the lower mainland; that is to say, northward from the thriving city of Vancouver, and these lands have something to offer the worker whose ambition is toward a self-supporting home in the country.

To one who has travelled through some of the States and seen the barren fire-swept hillsides that were once clothed with magnificent forests, the problem of these logged-off areas will present itself as a serious one with regard to the welfare of the whole province. The great influence of forests on the climate of a country has been proved disastrously when those forests have been cut down and no effort made to replant with young trees or to cultivate the land.

It may be argued that they will renew themselves from the seed that is dormant in the soil, and could we guarantee that no bush fires would sweep through the piles of dry tops, limbs and other debris of the logging operations, the re-afforestation might safely be left to nature. The number of fires that occur every summer in old workings is proof of the fallacy of that argument.

The policy of the Provincial Government in throwing open this class of land to the settler and aiding him with loans and the construction of roads is the first step towards the permanent elimination of the menace of the desolate, burnt-out timber-limit. As there are certain conditions which render this coast district peculiarly suitable to the man who is in the majority in having no capital save his health and strength and determination to succeed, it may be interesting to look more closely into his chances to attain independence on the land.

As one journeys up the coast from Vancouver he finds in every quiet cove and land-locked inlet, the cosy bungalows of the settlers. In this land of mild winters the Californian style of home prevails, and many of them are built of the free-splitting, straight-grained cedar of the country. Although the land has been logged-off plenty of timber remains in the form of partly burnt trees and those that are too small to cut into the wide, red-cedar shingle, demanded by the trade, and it is some compensation for the labor of land-clearing to have at hand a good supply of material for all building and fencing purposes. With no further cash outlay than the cost of nails, glass, and a few simple tools, a man may build a house for his family according to his fancy and ingenuity.

When we come to the most important factor in the eyes of the prospective settler, the quality of the soil, we find a wide choice. It ranges from the "black muck" of the bottom-lands to the gravelly soil of the hillsides, and even the latter will, with the aid of the plentiful rainfall of the coast region, produce two and sometimes three cuts of clover in a year and remain green the winter through in a normal season. The intermediate soil, the brown loam of fruit, grain and vegetable that will thrive in the temperate zone, of a size and quality to compare favorably with that grown in any part of Canada.

The main drawback is, of course, the land clearing. In this connection it should be understood that few, if any, of the settlers attempt to farm on the scale common in Eastern Canada. Even with the best methods one man's lifetime is hardly long enough for that; nor is it necessary. I have the authority of one of our most experienced farmers for the assertion that a ten-acre clearing on the coast is equal, in its capability of producing a good living for a family, to a quarter section on the plains.

The nearness of such growing cities as Vancouver and New Westminster provides a ready market for the fruits of the orchard, the berry patch, the truck garden and last, but by no means least, the poultry yard. The bays and beaches of the coast are yearly growing in popularity with the citizens of the foregoing towns as summer resorts, and the ranchers are finding a market near at hand for more and more of their produce.

The land clearing necessary for this class of farming is not such a herculean labor. Fire, which, unchecked would destroy the whole country, becomes when controlled and used judiciously the most effective means of clearing land, and the modern char-pitting methods which have been so successful in the near-by State of Washington will work the destruction of even the huge stumps of the Douglas fir.

Almost every new settler turns his attention first to the raising of a flock of chickens and so far nothing has been found to beat the laying-hen as a money-maker. The light, porous soil of the slopes is highly suitable for poultry ranges, and in a country where grass and clover remain green throughout the year the winter-laying hen is the rule rather than the exception. Then, again, clearing for a poultry range does not necessarily involve the removal of the heavier stumps. "Slash, burn and seed down" is the common practice, and when the farmer, in the course of improvements gets round to the stumping he finds the soil of the range in fine shape for cultivation.

The policy of the Provincial Government of making appropriations for road-work has been widely criticized. The settlers have been termed "wagon-road ranchers whose only product is a vote"! Now that the smoke of battle has drifted away from the polling-booths it is only fair to the defeated party to mention that there are many successful men on the land to-day who would not be there but for the annual "grub-stake" which they

earned as wages for roadwork while making a start.

The able-bodied newcomer will have little difficulty in finding remunerative work with which to eke out the returns from the land during his first year or two. The big logging camps are not far north, pulp-mills are growing in number and capacity, and the mines in the hills are running full blast.

It is surprising too how little one needs to buy after a start has been made. The family cow will pick up her living for nine months in the year along the grass-grown, disused logging roads. It is not hard to raise pork enough for one family's needs, while the grouse and the black-tailed deer that range over the whole coast slope afford a change of diet to the lucky hunter. Smoked fish is considered good food, and the mouth of every creek of any size swarms with the homeward-bound salmon every summer. Add to this the produce of the garden and hen-house and it will be seen that the first few years need not be so lean for a wide-awake man.

"We may not have much money," said a two-year resident to me recently, "but it would take a long, long time to starve us out."

Every kind of small fruit thrives amazingly on the coast. As evidence of the native fruitfulness of the district the writer counted eleven different varieties of wild edible bush-fruits growing on a twelve-foot strip by the side of an old skid-road. Small wonder that the black bears are so fat and amiable!

The isolation experienced by the settlers of some of the new districts of Canada, the weary "waiting for the railroad," is not in evidence along the coast. The boats of rival steamship companies, calling every day at the wharves and landings, compete for the patronage of the ranchers and a few hours' journey over the sheltered waters of the Gulf of Georgia lands the passenger on the busy streets of Vancouver, while many of the older settlers own their own gasoline launches.

Yet this is no get-rich-quick country; no real estate agent's Eldorado. The newcomer must wear out more than one mattock before he attains his ends, but for the toiler who longs for "a little place of his own," and is willing to work for it, the coast, with its natural advantages, offers him a fighting chance to reach a position where he can say in the words of the provincial motto, "By land and sea we prosper."

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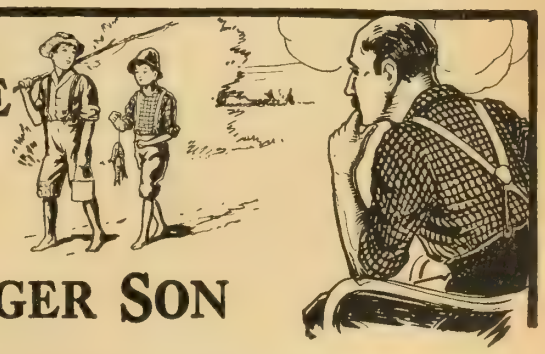

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CANADIAN NORTHERN RAILWAY

Co-operation and Bulls

By GEORGE DACY

THE HIGH prices which obtain for better blood often deter stockmen and particularly dairymen from availing themselves of the use of purebred sires as a primary step in grading up their herds. Consequently twenty farmers on adjoining farms may each be maintaining one or two scrub bulls per farm because these animals are cheaper on the market than are the registered males. Let us suppose that these twenty farms supported a total cow population of four hundred head and that twenty scrub bulls that cost an average of $75 apiece were kept in service. The investment in bulls would amount to $1,500. Under proper management and co-operation nine mature bulls would have handled the 400 cows. At the same outlay in cash nine purebred bulls at $166.67 apiece could have been purchased.

Furthermore, instead of having to feed and maintain twenty bulls this community of farmers could have realized better results at a much lower cost per farm if only nine registered bulls had been kept. I am merely attempting to develop the fact that the right kind of co-operative ownership will solve the bull problem of any community at a minimum cost per farm. I have noted the success of bull clubs in different dairying countries and have yet to see a failure where judicious management and commonsense were used in a half and half mixture.

Twenty or thirty farmers engaged in the dairy or steer-raising business can combine and form a bull club. Their first move should be to dispose of their scrub bulls in order to replace the mongrels with purebreds. Suppose thirty farmers owning 600 cows organized a co-operative bull club. It would require twelve mature bulls to serve these cows, figuring fifty cows per bull for the season. The best plan to follow would be to block off the region into six districts or breeding blocks. Two bulls should be placed in each block and rotated to the next block above at the end of every second year in order to control tendencies towards inbreeding.

Such a plan would make the first lot of bulls useful without any danger of in-and-in-breeding for twelve years. The average cost of keeping and feeding the bulls would be pro-rated among the members of the club in proportion to the number of cows which they kept. The bulls should be maintained at a centrally located farm in each breeding district whence they can be driven to the other farms or else the cows can be brought to the quarters of the bull.

The co-operative bull club favors the use of better blood as it enables the club as a body to pay prices for bulls which would be entirely beyond the reach of its members were they as individuals to try to buy the purebred sires. The bull club reduces to a minimum the maintenance costs of bull service. The use of purebred bulls of one breed soon markedly changes the type of cattle in a locality. It promotes fixity and uniformity of type and ultimately develops the territory as a region of production for one breed of cattle. Hence prospective purchasers wishing to buy a few head or one or more carloads of cattle of this particular breed will be attracted to this section where animals such as they desire are to be had in number at a minimum expense as regard time and labor in buying and assembling the animals at a central shipping point.

The co-operative bull club can also extend the scope of its buying operations to include the purchase of purebred cows by the carload for its members as they are financially able to handle better females. It can also develop co-operation in the community purchase of grains and concentrates by the carload, thereby reducing to a low point the cost per ton of feed which the individual farmers have to buy. If lime, fertilizers, machinery, repairs, groceries and similar material are needed they also can be purchased jointly by the bull club and distributed among members at a price much lower than they could possibly secure them for were they to make the purchases in small lots.

The community bull club can also accomplish noteworthy work for the benefit of the locality by sponsoring the co-operative marketing of the live stock. In sections engaged in beef production, the bull club can directly sell the fat stock by the carload to city dealers or commission men who probably will be glad to send buyers out into the country to the shipping points where the stock is loaded in order to buy the stuff on the hoof in the country, which will relieve the bull club of any trouble or worry relative to carrying the stock to a central marketing place to effect its profitable sale.

Co-operative selling of live stock in this manner enables the single farmer to obtain superior prices for the few head which he offers which are not enough to make up a carload. Otherwise he would be at the mercy of the local stock buyer who could pay him prices much below the true value of the animals and yet purchase the stock because the farmer would have no other outlet for its disposition. The co-operative bull club merits a trial in new dairying countries as well as old ones where the farmers, as yet, have not been able to purchase purebred bulls and grade up their herds by the use of better blood.

Power machinery outside for stacking alfalfa.

Belgian Relief

A. De Jardin, secretary-treasurer of the Belgian Relief Fund, writes as follows:

In view of the recent statement issued by Mr. Hoover, Chairman of the Commission for Relief in Belgium, which points out the impossibility at present of obtaining the necessary tonnage to forward to Belgium the food supplies in the same quantities as in the past, and also draws attention to the fact that the United States Government have made arrangements to loan to the Belgian Government the sum of $45,000,000—payable to the Commission for Relief in Belgium in six monthly instalments—which sum will cover the cost of such food supplies as can be shipped in that time by the limited number of ships available to the Commission—the Central Executive Committee of the Belgian Relief Fund in Canada finds it unnecessary for the present, to make appeal to the generously disposed people of Canada on the plea of the urgency of support in order to stave off starvation.

The needs of Belgium continue, however, as pressing as in the past and the situation may be considered as being even more pitiable as, through the forced decrease in imports, Belgium will be compelled to fall back on her last native resources already so denuded. In order to maintain that so limited ration that has been doled out in the past it will be necessary to encroach upon the country's stock of milk cattle, which has been reserved to maintain a supply of fresh milk for the children.

In the hope, however, that the recent swiftly developed shortage in the world's shipping—the cause of this new departure of the relief work—may not permanently endure; in the hope that the necessary funds may be available should any emergency or special occasion arise and in view of the fact that in any event relief in many forms will be required after the war, the Committee hope that all the generous supporters of the fund in the past and all who have pledged themselves for future payments will continue to support the fund and thus continue to show their sympathy with the people who gave their all for the cause of humanity.

All such donations received after the 15th of June will be disposed of to the best advantage of this stricken people, according to the wish that may be expressed by any donor or according to the actual or more pressing needs of any of the already organized channels of relief work such as: "Help to the Children removed from Belgian Front," "Queen's Fund for the Wounded Soldiers," "Home for the Belgian Soldiers," "Relief for Belgian Prisoners in Germany," "Anglo Belgian Committee of the Belgian Red Cross," "Relief for Belgian Children Suffering from Tuberculosis and Rickets," "Belgian Orphan Fund," "Belgian National Relief Fund for War Orphans," etc.

All donations received prior to the 15th of June will be held at the disposal of the Commission for Relief in Belgium, for the purchase in Canada of Canadian produce, according to our previous pledges.

The Central Executive Committee will issue in the immediate future a report covering the whole of their operations up to the 15th of June.

Indiana Farmer Buys Alberta Land

D. M. Hamilton, a prominent Indiana farmer, who has been making a tour of Western Canada for the purpose of selecting a tract of land for a neighboring colony, has selected a location in the Wainwright, Alta., district, contiguous to the Grand Trunk Pacific Railway, where he was able to secure 15,000 acres of good land at a very attractive price. Mr. Hamilton is greatly impressed with the country.

The Woman Farmer

Continued from page 20.

to so arrange her work that there would be no heavy lifting. Many a time she had known women to break down, not because they worked hard, but because they did hard stunts suited only to men. A fine little waggon with a suitable box was always at hand for conveying pails or boxes from one building to another and for conveying meal and roots. There was to be no lifting or carrying that could be avoided. This involved an insistence upon clear paths and passage ways and well-working doors and gates. No litter was left in the yards and every precaution was taken to keep the farm equipment handy and orderly. "It's when things get mussed up that the losses come," she told all her help. No excuse was taken for harness being neglected. As soon as any repair was needed it was provided for. The same principle applied to every farm implement. When the implement was likely to be needed it was looked over at the first opportunity, and when its work was done it was overhauled again and placed in its rightful position.

Of course, additional help was needed for the haying and harvesting and for this help Mrs. Bronson saw that it was good business to secure the very best available. This was procured on the basis on which she had hired her help that remained with her the year through. She had no intention of making it easy for those eligible for military service to secure good wages when her own husband was fighting his country's battles.

There were a good many bumps and disappointments for the brave little woman, but it was wartime with her and the world, and to the new conditions she addressed herself with all her might. The dairy, the poultry yard, and the hogs, these three she studied as best she could, and from these she had good returns. She was careful about her marketing and she soon had won a reputation not only as "the woman farmer," but for offering a first-class product. She knew how great were her risks of loss and for that reason she kept the sharpest outlook on all costs. A safe game was the only game she dared to play. The profits were not large, but there were profits and the business was kept running against the day when her husband would return, keeping step to the music of the conqueror.

Bananas—Good Food

Bananas are rich in nutriment, and, because of their little cost are indulged in extensively by the poor. They would also be more generally consumed if mothers recognized how very much "meat" there is contained in them.

In the jungles of Africa whole tribes subsist principally on bananas; they are their staple food; their bread, in fact. A savage will carry seventy-five pounds weight on his head, marching from sunup to sundown on a diet of six bananas a day. Just think of it, only six bananas a day to sustain a man doing the hardest kind of work, head portage over the one-man wide paths of the almost inaccessible jungles. And the men are the hardiest creatures you can imagine.

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The Businessman's Mind

BANKERS are supposed to have a particular character of mind; Lawyers and Doctors likewise; Teachers also. These minds have both narrowness and breadth. They see widely and deeply in their own realms, and narrowly and sometimes shallowly in regard to matters outside their particular worlds. At least, this is the common supposition.

THE Businessman—What should be the character of this mind? —What is the mind of the Manufacturer, the Wholesaler, the Retailer? Certainly the Businessman's mind should be broad. It should be something of the Banker's, something of the Financier's, something of the Statesman's. The Businessman should see broadly. The horizon of interest and of inquiry for him should be a far one.

The happy thing about it is that the business man—manufacturer, jobber, retailer--can have the far outlook—this by the reading each week of a newspaper with a far outlook—

The Financial Post of Canada

This is a business man's paper—it is a paper for bankers, for investors, for trustees, for financial men. But it is also a newspaper for **merchants**, very much so.

Merchants need to know markets and market tendencies and market factors. They need to know conditions, local and remote. They need information to buy right and to sell safely.

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.....1917

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Investments and Insurance

For the Farmer

LOANS TO FARMERS ARE GOOD SECURITY

Food Production Stimulated Sends Prices Up.

"The investor who has a desire for substantial securities and wants those which will be unaffected by the fluctuations of the market can do no better than to buy farm loans. In the end the farmer has the best general outlook for the war period of any class of borrowers."

This is the view of an expert on farm mortgages, who contributes to the *Financial World*, of New York, a thoughtful article on the influence of the war on this particular investment. He is writing, of course, for investors in a country, which has just entered the war, but as economic conditions in Canada approximate closely to those in the United States, his opinions are not without value to the Canadian investor, and particularly the farmer with some money to spare. What the business man regards as sound should be good precedent for farm investors.

The appraisements made on farms are now on a better basis than in the past and there is less likelihood of slumps in land values. The farm values are closely connected with the prices of products, and while these bring good figures the farms will continue to be in demand. The appraisements generally are being made by experts and they have been trained by long years of experience.

The establishment of the farm loan field during the war, then, is certain to be one that will appeal to investors. It has the elements of safety during the nation's war period that will be unexcelled and investors may be promised practically certain results.

One big Western farmer in Saskatchewan who has $50,000 out, has practically all of it loaned to neighboring farmers where he understands the situation and can be his own best advisor. He gets 8 per cent. on all his money.—F.M.C.

Investments for Farmers

The FARMER'S MAGAZINE has been saying for some time, that investment information should be at the farmer's elbow, so that he may not get bitten as often as he does. It is with pleasure that we notice an editorial in a Western exchange hammering home the same sensible advice.

A farmer, the writer says, has the right to invest his surplus money. He has a right to take what chances he pleases in making investments but—and there are several buts to be considered before making such investments. There are few men engaged in agriculture that have a thorough knowledge of the enterprises they are asked to invest in. They are forced to rely upon the integrity, knowledge and judgment of the promoter. Is this safe business?

That, however, is a minor point to the man with money who is willing to take a chance. By far the greater factor is the demands on the farm owners for further investment and working capital on their own farms. There are few men but will remember the handicaps of lack of working capital in previous years. There will again come years when there will be lean crops. There is great need for investment, permanent investment on our farms, that will make them permanently profitable and that will give comfortable homes and homesteads.

Most men on our farms know farming better than any other business. It may not be as profitable as some other enterprises, but because the farmer knows his business he should develop it to make it as permanently profitable as is in his power and he should make the farm home a comfortable place for his family and himself to live. After this has been done and he has a surplus above working capital, there are one or two investments he can make that will always be considered safe security if he should require credit, one is life insurance, the other government bonds. The one will be very favorably received by the family, the other will bring in a small but sure revenue. Then if you must invest in some company, why not invest in those sound farmers' companies already organized for carrying on the business of farmers?

Conscription of Wealth

In a small Ontario town one day recently a farmer walked into the branch of the Canadian Bank of Commerce and demanded the balance of his savings account — a few thousands of dollars. The reason? He had read in the newspapers of "Conscription of Wealth." This is just an instance of how the public mind may be inflamed in an unsettled time like the present by reckless newspaper talk, says the *Financial Post*. Also it is a sample of the reckless methods by which many editors seek to cater to popular opinion. The idea of confiscating wealth will always be popular with the non-thinking masses, especially so long as popularity-thinking newspapers continue to encourage the idea rather than to educate the people to a common-sense view of the relations of capital and labor.

If individuals buried their treasure in their cellars there would be an excuse for such an agitation as that which is being aroused. But they do not. Every dollar is either invested or deposited in a bank and is, therefore, financing production or commercial business. In fact, all moneys invested within the nation are employed in the service of the nation and in the last analysis are in control of the nation. It is for the nation to organize financial and national resources to best perform the required service. But it must be remembered that Canada is a young country. She has illimitable natural resources, but has only since the war been producing sufficient to pay her way. The more

capital she takes for the war the less she will have to finance production. The policy of deferring war debts is sound business if in the conservation of capital such capital can be made to produce more than the interest on borrowings.

INSURANCE

Farmers' Fire Co. in New Ontario

At a meeting in Slate River, New Ontario, Robert McKenzie, of Oliver township, was present and introduced the subject of Farmers' Mutual Fire Insurance. He is endeavoring to form a branch of this company in this district and will require 100 farmers with at least $250,000 worth of insurance before a branch can be organized. Each farmer on becoming a member is required to pay the sum of $1, and for each $100 worth of insurance he will have to pay the sum of 15c. This is very cheap compared with what our farmers are paying at present for insurance, and I am of the opinion that Mr. McKenzie will have little trouble in getting the 100 members to start with. A general meeting in the interest of this movement will be called in the near future, when I shall report results.—G. W. Collins, B.S.A.

Sir Wilfrid's Insurance

When I was a young man I was in very delicate health, said Sir Wilfrid Laurier before the Ottawa Underwriters' Convention. But, thank the Lord, my health is good now. If this were a political meeting I would say the Lord is good to His own: But though my health is good now, it was not always so. I was thirty years of age before I could get any insurance on my life. I made application to this and to that company, but always—I do not blame them, for all the signs were against me—they would not grant me insurance. At last in the year 1878, when I was just thirty-six, a Canadian company thought they would take a risk on me. But they did so upon the certificate of Dr.—now Sir James—Grant, that I was good for ten years. You see, Sir James was very modest in his estimate and did not impose a very special risk upon the company. But once the ice was broken, it was easy for me to get insurance in other companies, and, after all, I do not know that I have proven a bad risk, for I have been paying premiums ever since. My policy has been paid up for 25 years, and I have only to die to get the money. But, in spite of the offer of so much money, so far as I have any say in the matter, I intend to go on living for some years more. And I must say that I was more comfortable after 1878 when I got my life insurance, than I had been before, for I could feel that even if I were taken away, I should not leave my wife altogether unprovided for.

Farmer's Fire Insurance

The organization and management of farmers' mutual fire insurance companies is discussed in detail in a new publication of the United States Department of Agriculture, Bulletin No. 530. These companies, it is said, represent one of the most successful forms of rural co-operation in the United States. Nearly 2,000 of them are in existence and the total amount of

The Merchants Bank of Canada

Statement of Liabilities and Assets at 30th April, 1917

LIABILITIES

1. To the Shareholders

Capital Stock paid in	$ 7,000,000.00
Rest or Reserve Fund	7,000,000.00
Dividends declared and unpaid	178,365.00
Balance of Profits as per Profit and Loss Account submitted herewith	421,292.96
	$14,599,657.96

2. To the Public

Notes of the Bank in Circulation	9,483,468.00
Deposits not bearing interest	27,101,587.86
Deposits bearing interest (including interest accrued to date of statement)	65,000,484.42
Balances due to other Banks in Canada	628,863.08
Balances due to Banks and banking correspondents in the United Kingdom and foreign countries	3,904,690.72
Bills payable	.....
Acceptances under letters of credit	411,806.78
Liabilities not included in the foregoing	.....
	$121,130,558.82

ASSETS

Current Coin	$ 4,766,438.82
Deposit in the Central Gold Reserves	3,500,000.00
Dominion Notes	7,650,790.50
Notes of other Banks	793,367.00
Cheques on other Banks	5,674,828.67
Balances due by other banks in Canada	2,635.33
Balances due by Banks and banking correspondents in the United Kingdom	61,225.79
Balances due by Banks and banking correspondents elsewhere than in Canada and the United Kingdom	2,413,100.10
Dominion and Provincial Government securities, not exceeding market value	3,862,507.19
Railway and other Bonds, Debentures and Stocks, not exceeding market value	3,964,251.24
Canadian Municipal securities, and British, Foreign and Colonial public securities, other than Canadian	11,263,196.20
Call Loans in Canada on Bonds, Debentures and Stocks	4,627,863.57
Call Loans elsewhere than in Canada	3,461,420.47
	$52,041,624.88
Current Loans and Discounts in Canada (less Rebate of Interest)	62,737,958.74
Current Loans and Discounts elsewhere than in Canada (less Rebate of Interest)	377,582.42
Liabilities of customers under letters of credit as per contra	411,806.78
Real Estate other than bank premises	294,197.07
Overdue debts, estimated loss provided for	149,039.68
Bank Premises, at not more than cost less amounts written off	4,617,400.23
Deposit with the Minister for the purposes of the Circulation Fund	375,000.00
Other Assets not included in the foregoing	125,949.02
	$121,130,558.82

K. W. BLACKWELL, *Vice-President* — E. F. HEBDEN, *Managing Director* — D. C. MACAROW, *General Manager*

Report of the Auditor to the Shareholders of The Merchants Bank of Canada

In accordance with the provisions of sub-Sections 19 and 20 of Section 56 of the Bank Act, I report to the Shareholders as follows:

I have examined the above Balance Sheet with the Books of Account and other records of the Bank at the Chief Office and with the signed returns from the Branches and Agencies.

I have checked the cash and verified the securities of the Bank at the Chief Office against the entries in regard thereto in the books of the Bank as on 30th April, 1917, and at a different time during the year and found them to agree with such entries. I have also attended at some of the Branches during the year and checked the cash and verified the securities held at the dates of my attendances and found them to agree with the entries in the Books of the Bank with regard thereto.

I have obtained all the information and explanations I have required. In my opinion, the transactions of the Bank which have come under my notice have been within the powers of the Bank, and the above Balance Sheet is properly drawn up so as to exhibit a true and correct view of the state of the Bank's affairs according to the best of my information and the explanations given to me, and as shown by the books of the Bank.

VIVIAN HARCOURT,
(of Deloitte, Plender, Griffiths & Co.),
Auditor

Montreal, 21st May, 1917.

THE CANADIAN BANK OF COMMERCE

SIR EDMUND WALKER, C.V.O., LL.D., D.C.L., President

JOHN AIRD, General Manager
H. V. F. JONES, Ass't. Gen'l. Manager

CAPITAL PAID UP, $15,000,000 RESERVE FUND, - $13,500,000

We must do many things, but everything that will help to win the war. You can help by saving.

Interest is allowed on Savings Deposits of $1 and upwards at any branch of the Bank. 16

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insurance they have outstanding exceeds five and one-fourth billion dollars.

In some States of the Middle West, fully three-quarters of all the insurable farm property is insured in companies managed by the farmers themselves, and organizations of this character exist in every State except in Florida, Mississippi, Louisiana, New Mexico, Arizona, and Nevada. The increasing number and size of these companies make it important that they should be founded on sound principles. The bulletin takes up the problems that are likely to arise and discusses them fully. In addition, suggested articles of incorporation and by-laws are contained in the appendix, together with forms of application and policy blanks.

Forethought Pays

How is it that about eighty per cent. of persons over sixty are dependent upon others for support? The remedy lies in suitable life insurance. There is no safer place or more certain provision for old age than a carefully chosen life policy. Meantime there is the comfortable assurance that dependent ones are protected.

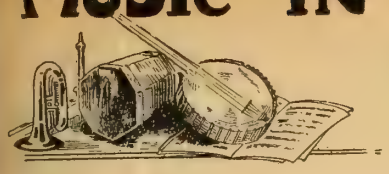
Many a young farmer would be thankful in later years if he had taken out a policy when he was 20 years and had it all paid off by the time he was 40.

Barn Fire Losses

During the years 1912-1916 inclusive, no less than 5,200 barns were destroyed in Canada, with an aggregate loss of over $7,850,000, says *Conservation.* These, like the majority of fires, might have been avoided by the exercise of intelligent forethought and proper care. Investigation shows that the most prolific sources of barn fires are lightning and spontaneous combustion. Evidence gathered from all parts of Canada and the United States proves that rodded buildings are practically immune from lightning damage. The cost being a mere fraction of the possible loss in case of fire, it is of economic importance to the farmer that every barn should be efficiently protected by lightning rods.

While it is more difficult to arrive at conclusions with regard to fires caused by spontaneous combustion, it is generally held that such fires are of frequent occurrence. Owing to the excessive number of barns burned in Ontario during the summer of 1916, an investigation was undertaken by Prof. W. H. Day, Professor of Physics, Ontario Agricultural College, with a view to discovering the exact conditions favorable to spontaneous combustion in stored grasses. It was proved that large quantities of imperfectly cured hay were frequently stored in barns with little or no ventilation, and that the high temperatures reached during fermentation resulted in a number of fires. Farmers are not generally aware that the cells in hay continue their existence for some time after it is cut and, when the moist compressed mass is housed in close barns, a temperature of 132 deg. F. is quickly reached. Added to this, the heat from microsopic spores, germinating seeds and the heat of the sun upon the roof may raise the temperature of the mow to 212 deg. F., when charring commences. The carbon thus formed absorbs oxygen and the mass grows hotter, until, at 265 deg. F., visible combustion takes place. Bran, grain and silage may also ignite spontaneously under similar conditions.

MUSIC IN THE HOME



This department is opened in order to give some prominence to what has come to constitute a large part of our rural homes—music. No house is complete without some form of music and music is confined to no form or to no instrument. The joys of song, the beauty of the human voice, the music of children, the divers instruments that furnish sweet sounds, all soothe as well as write the histories of our national joys and woes. In ancient times we read that the wine press was trodden and the vintage which closed the harvest, was gathered with a song. The farm home of Canada that carries no music in it, is either deserted or brewing discontent. —Editor.

Your Favorite Song

What is your favorite song? We will be glad to hear from any reader of THE FARMERS' MAGAZINE telling what his or her favorite is and why it appeals. Write briefly and on one side of the sheet.—Editor.

Look For It

See deep enough, and you see musically the heart of nature being everywhere music, if you can only reach it.—Carlyle.

Music Is Divine

Music is a sacred thing, a divine, a Godlike thing, and was given to man by Christ to lift our hearts up to God, and make us feel something of the glory and beauty of God and of all which God has made.—Charles Kingsley.

Midsummer Music

How sweet the moonlight sleeps upon this bank,
Here will we sit, and let the sounds of music
Creep in our ears; soft stillness, and the night
Become the touches of sweet harmony.
—Shakespeare: Merchant of Venice.

A Parody on Music

When a boy at the county town Collegiate Institute, one of the teachers now a retired major, was fond of quoting a parody on music: Here it is,
Music hath Charms to soothe the savage
Split a rock or bust a cabbage.—F.M.C.

Using Records to Sing

It is a matter of unusual interest to singers, students of singing, and even to teachers, that here and there persons are working to devise means to assist the student of singing in the earlier stages of his work by making records showing how to sing various exercises necessary to develop and form the singing voice, not with the idea of replacing a teacher but of supplementing his work effectively.

A Bit of Music

A business man who holds a high place in the opinions of all who know him, said:

"Of many things that I have done, no other has given me more pleasure than the fact that I learned a little music in my youth, and kept it up as I advanced in years.

"It has never brought me a dollar, but there are plenty of other ways of making money. My bit of music has brought me what is better and more valuable than money. The fact that I know a little music and sing and play has been the key that opened very many pleasant homes for me, and it has won for me the friendship of many good people."

There is a little talk that hundreds of youngsters ought to give due consideration. They have the opportunity now to get a start in music, and they ought to take advantage of that. And having mastered the rudiments, they should keep it up.

Try to think of music not as a means of making a few dollars, but as something more valuable, as a means for living right and enjoying life in a rational and profitable way. Learn music not for what you can get out of it in money, but for what you can get out of it that is worth more than money. Not alone for the pleasure that it will give you, but for the fact that it will enable you to give pleasure to others.

Learn all the music that you can learn, and learn it now. And then in later years you may not have to regret that you wasted an opportunity that should have been grasped and helped and that should have been made to yield to you, all that you were able to receive.—Exchange.

$5,000 for Mouth Organs

The London *Musical News* collected by subscription £1,000 which was expended in supplying mouth organs to soldiers at the front. For that amount a large number must have been purchased and doubtless the "Tommies" regaled their audiences in the opposing trenches with their renditions of popular tunes.

The Violin

By Louis Varnum Woulfe.

The spirit of music sleeps within me.

I am mortal in many respects—deaf but not mute; sensitive, yet only responsive to the gentle touch of fingers.

Through me, the genius of the world's music masters is understood and appreciated by others.

I am an interpreter of tones of unparalleled sweetness and clearness.

I feel grief, joy, passion—in fact all emotions common to individuals. In sympathetic hands, I wake to life soul-thrilling melodies, and, to the wizard of the strings, grow to be a friend to every mood.

When my voice is heard silence holds a magic sway. I give to moments a wealth of enjoyment and leave as an aftermath a memory eternal. When the bow of my master no longer moves in graceful movement, people applaud, and call me again into expression.

I am democratic in temperament. I take my place in an orchestra and give of myself as freely as I appear solitary before titled monarchs.

I am in reality a stringed instrument, a counselor of entertainment, a clarion call which groups society, and a companion who intimately understands the varying moods of humanity. I stop the flow of tears, create an atmosphere of contentment, and cause joy to reign supreme—

I AM THE VIOLIN

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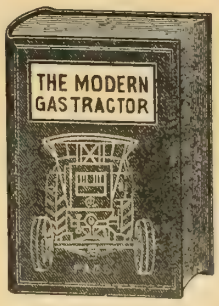

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THE FARMER'S MAGAZINE
143 University Ave. - TORONTO

The Price of Delay

To Parents and Students Seeking a School

IT IS a fact that many of the best schools complete their enrolments well in advance of the fall opening and are forced to turn away late applicants.

The price of delay is often a wasted school year for a boy or girl.

But this is only one of several reasons why it is important to choose the proper school in ample time.

There are often numerous details which demand attention after the decision is made—matters of wardrobe, equipment, hygiene, finance—perhaps questions to ask the Principal. In the last-minute rush at opening time details of this nature often receive scant attention.

Plan to give your boy or girl the best kind of a start by making an early decision on the right school while there is plenty of time to plan thoughtfully and wisely.

To simplify the school question for **The Farmer's Magazine** readers we have brought together in this issue, the announcements of the leading preparatory schools and colleges—the best institutions of their kind in this country. This list is especially arranged for your convenience, and we advise you to consult it carefully and study the information offered about each school.

You need feel no hesitancy in writing freely and frankly to any schools in this list, for in placing their announcements in **The Farmer's Magazine** they stand ready to answer all questions and submit to the most rigid investigation.

Pick out those institutions which you think will meet your requirements and write to them for more intimate details. In addition to sending their catalogs, with views, references and other information, the Principals will gladly answer any questions you may wish to ask.

If you are still undecided about a school after you have carefully studied the announcements in this issue, we will be glad to give you any possible assistance. Remember that this puts you under no obligation whatever. In writing us, be sure to state the kind of school you desire, age of pupil, location preferred, and the approximate tuition fee you are willing to pay. After studying your requirements we will advise you to the best of our ability.

School Bureau

The Farmer's Magazine

143-153 University Avenue, Toronto

The Farmers' Program

Our farmers as citizens of Canada are interested in everything that will promote the general welfare of the nation. The platform adopted by the Canadian Council of Agriculture is one which we believe will be just as beneficial to the people of the cities and towns and to organized laborers as to the people on the farms of Canada. The farmers hope for the support of all good citizens in getting their platform enacted into legislation. The platform has been endorsed by a large number of our locals and was first adopted at a meeting attended by the presidents and executive officers of the farmers' organizations of Ontario, Manitoba, Saskatchewan and Alberta, representing over 60,000 farmers. The following is a brief summary of its main provisions:

1. Free trade with Great Britain.
2. That all food stuffs and agricultural implements, etc., not included in the reciprocity agreement with the U.S. be placed on the free list.
3. That customs tariffs on all necessaries of life be reduced.
4. A direct tax on all improved land values and natural resources.
5. A sharply graduated income tax upon all incomes over $4,000 per year.
6. A heavy graduated inheritance tax on all large estates.
7. A graduated income tax on the profits of corporations over 10 per cent.
8. The nationalization of all railway, telegraph and express companies.
9. Direct legislation, including the initiative and referendum and the right to recall.
10. Publicity of campaign funds and expenses both before and after election.
11. The abolition of the patronage system.
12. Full provincial autonomy in liquor legislation, including manufacture, export and import.
13. That the extension of the franchise to women in any province shall automatically admit them to the federal franchise.

—J.B.M.

The hard-working storekeeper had vainly ransacked his stock in his effort to please an old lady who wanted to purchase a present for her granddaughter. For the fifteenth time she picked up and critically examined a neat little purse. "Are you quite sure that this is a genuine alligator skin?" she asked.

"Positive, madam," quoth the dealer; "I shot the alligator myself."

"It looks rather soiled," said the lady.

"That, madam, is where it struck the ground when it fell off the tree."

An Indianapolis woman had a negro cleaning the yard for her. His wife had been dead for several years, and he might be fairly regarded as on the market once more. So his employer seized a favorable moment and proceeded to sound him.

"John," she said, "you're a good, steady man and ought to have a home of your own. Lots of women would be glad to have you. Why don't you get a wife?"

John leaned on his rake and scratched his head reflectively.

"Well, I tell you," he replied, "you know I was married seven years an' I've got to have a rest."

CATALOGUES, BOOKLETS, BULLETINS AND CALENDARS

Manufacturers of all articles that are used on the farm or in the farm homes, are invited to send in for review, any calendars, bulletins, booklets or brochures which they may have for public distribution. Mention will be made in this column free, but only of such catalogues, etc., that can be obtained free upon request by the reader.

The premium list for the Canadian National Exhibition has been issued. This booklet can be obtained by writing to the manager C. N. E., City Hall, Toronto.

The T. E. Bissell Co., Elora, Ont., have issued a very attractive folder on the silo, under the caption of Pasture Your Cows All the Year Round. It can be had by addressing a card to this firm.

The E. S. Staude Manufacturing Co. of St. Paul, Minn., U.S., issue a neat folder descriptive of their Mak-a-Tractor attachments for Ford cars whereby a motor car is easily converted into a plowing or draining tractor.

An attractive booklet entitled Comfortable Homes, which gives information about the installation and advantages of King Hot Water boilers and radiators for country homes is issued by Steel and Radiation Limited, 157 Fraser Ave., Toronto. It is free upon request.

Improved Farms in Eastern Canada is the title of an attractive booklet gotten out by the Canadian Pacific Railway. It lists thousands of farms for sale in each of the Eastern provinces. Parties desirous of purchasing can get it by addressing the Passenger Traffic Manager C. P. R., Montreal, Que.

The Aylmer Pump and Scale Co. of Aylmer, Ont., have issued a general catalog No. 15 illustrated neatly, and showing their single and double action force and lift pumps, power pump, spray pump, hydraulic rams, tank beaters, and pipe fittings, as well as farmers' scales, wagon trucks, and ladders. It contains all information and price lists.

Farmers' Bulletin No. 2, entitled "How to Make Prime Hay," comprises twenty pages and is attractively illustrated with photographic reproductions showing excellent views of modern haying machines in action in the hay field. The treatise was prepared by Professor A. M. TenEyck who has had wide experience in experiment station work, and who is now director of the Agricultural Extension Department of the Emerson-Brantingham Implement Company, Rockford, Illinois. A copy of this bulletin will be mailed to any farmer interested enough in making prime hay to write for it.

A treatise on hog raising from the view point of the packer, has been compiled and is being sent out to the swine raisers by Armour & Co., of Chicago. The booklet is the work of E. R. Gentry, general hog buyer for Armour &Co., assisted by Dr. R. J. H. DeLoach, director of Armour's Bureau of Agricultural Research and Education. It describes the various classes and grades which are standard at the various big markets and explains the types which the packers are most anxious to get and for which they will pay the highest prices. The various cuts and the dressing percentages from the different grades are described and their bearing on the market values shown. The booklet is in no sense aimed to induce the farmers to turn toward certain breeds of swine, the intent being merely to acquaint the hog raisers with the needs of the pork packer.

One way of feeding orphan pigs. A set of rubber nipples are attached to rubber tubes leading to bottles.

THE FARMER'S School Directory

An Authoritative and Up-to-Date Directory of Private Schools—Colleges—Correspondence Schools—Musical Schools—Veterinary and Agricultural Colleges

MUSICAL INSTITUTIONS.

International Institute of Music, Dept. S, Fort Wayne, Ind.
American School of Music, 610 Lakeside Bldg., Chicago.
U.S. School of Music, 225 Fifth Ave., New York.

AUTOMOBILE AND TRADE SCHOOLS.

Practical Auto School, 685 Beaver St., New York.

GIRLS' SCHOOLS.

St. Agnes School, Belleville, Ont.
Bishop Bethune College, Oshawa, Ont.
Westminster College, Bloor St. W., Toronto.
Westbourne School, Bloor St. W., Toronto.
Ottawa Ladies' College, First Ave., Ottawa.
Ontario Ladies' College, Whitby, Ontario.

BOYS' SCHOOLS.

Ashbury College, Rockcliffe Park, Ottawa.
Upper Canada College, Avenue Road, Toronto.
St. Andrew's College, Rosedale, Toronto.
St. Jerome's College, Kitchener, Ont.
St. Clement's College, North Toronto.

SPECIAL SCHOOLS.

L'Academie De Brisay, 416 Bank St., Ottawa.
The Arnott Institute of Stuttering and Stammering, Kitchener, Ont.

CORRESPONDENCE SCHOOLS AND BUSINESS COLLEGES.

Canada Business College, Hamilton, Ont.
Canadian Correspondence College, 15 Toronto St., Toronto.
Elliott Business College, 734 Yonge St., Toronto.
Ingersoll Business College, Ingersoll, Ont.
Woodstock Business College, Woodstock, Ont.
Shaw Correspondence Schools, 395 Yonge St., Toronto.
Standard Business College, Hamilton, Ont.
British American Business College, Yonge St., Toronto.

AGRICULTURAL AND VETERINARY COLLEGES.

Ontario Veterinary College, 110 University Ave., Toronto.
Ontario Agricultural College, Guelph, Ont.

MANY DAUGHTERS OF THE FARM
ARE NUMBERED AMONGST OUR STUDENTS EACH YEAR
Academic courses from Preparatory Work to Junior Matriculation, Teachers' Certificates and First Year University · Music, Art, Oratory, Domestic Science; *Special Economics and Civics*; Commercial Work; Physical Training—gymnasium, swimming pool, etc.
ONTARIO LADIES' COLLEGE.
Calendar from Rev. F. L. Farewell, B.A., Whitby.

BISHOP BETHUNE COLLEGE, OSHAWA, ONT. *A RESIDENTIAL SCHOOL FOR GIRLS*
Visitor, THE LORD BISHOP OF TORONTO
Preparation for the University and for the examinations of the Toronto Conservatory of Music.
Young children also received.
Fine location. Outdoor games and physical training.
The Musical Department (Piano, Theory and Harmony) will be under the direction of a Master, and of a Sister, who for twelve years taught in the School with marked success.
Voice culture will be in charge of a qualified mistress. College reopens Wednesday, September 12th.
For terms and particulars, apply to the SISTER IN CHARGE, or to THE SISTERS OF ST. JOHN THE DIVINE, Major St., TORONTO

ST. MARGARET'S COLLEGE
TORONTO A Residential and Day School for Girls CANADA
Full Academic Course from Preparatory to Honor Matriculation.
Music Art Household Science Physical Education
Games Swimming
Mrs. George Dickson, President — Miss J. E. Macdonald, Principal
School Reopens Sept. 12th, 1917 — *Calendar sent on application*

Ontario Veterinary College
110 University Avenue, Toronto, Canada
Under the control of the Department of Agriculture of Ontario.
Affiliated with the University of Toronto
College Reopens Monday, 1st Oct., 1917
Calendar sent on application
E. A. A. GRANGE, V. S., M. Sc., Principal

A PAYING INVESTMENT FOR WINTER MONTHS

It costs you nothing to consult us as to the advantages of having a Greenhouse on the Farm. Write Dept. M., stating your requirements and we will gladly furnish you with costs, etc. All information FREE.

Glass Garden Builders
LIMITED
Kent Building - Toronto
Transportation Building, Montreal
Factory: Georgetown, Ont.

English Tractors

We have the following second-hand Tractors, Plow and Separator to offer for cash, F.O.B. Saskatoon; all are in good shape with the exception of the five bottom plow, which requires a little overhauling. These are great bargains, all the engines being of English manufacture, and it would pay you well to consider these before buying elsewhere:—

Tractors made by Saunderson & Mills, Bedford, England:—One fifty brake horse-power four-cyylinder tractor, $1,500. One thirty brake horse-power four-cylinder tractor, $1200. Two fifteen brake horse-power two-cylinder tractors, $875 each. One eight brake horse-power one-cylinder, air cooled, with lorry body tractor, $475.
One small English threshing machine, capacity about 400 bushels of wheat per day, $275. One five-gang self-lift Avery Plow with rod breaker bottoms, $150.
Two twenty brake horse-power two-cylinder Tractors made by the Earle Shipbuilding & Engineering Co., Ltd., Hull, England, $975 each.
One sixty brake horse-power two-cylinder Tractor, made by Ruston, Proctor & Co., Ltd., Lincoln, England. This tractor has not been used except for demonstration purposes, and we have instructions to sell same, $3,000.

The British-Canadian Agricultural Tractors, Limited
P. O. BOX 685
Ontario Avenue, Saskatoon, Canada

ADD $ $ $
to your income

Right now—an extra FIVE or TEN DOLLARS a week added to your regular income would come in useful, wouldn't it, with "summer needs" making more than ordinary demands on your purse?
We are in need of more men and women in Canada to represent us, and to look after our new and renewal subscription business. To the active, energetic men and women eager to augment their present incomes we have a plan of payment that is interesting. It will pay you liberally for as much time as you can devote to it.

Write us to-day and let us tell you all about it

The MacLean Publishing Co., Limited
143-153 University Avenue, Toronto, Ontario

Orchard Notes

In July, never later than the last of July, cultivation should stop in the orchard and berry field with the exception of strawberries, which must be weeded and looked after throughout the growing season.

At the last cultivation, say July 15, do not fail to sow some kind of crop in your orchard, whether it be apple, pear, peach, plum, quince or cherry.

What is the most delicious fruit in Canada? If you think you know, write the editor of the FARMER'S MAGAZINE giving your reasons.

Does any one know of a beech tree being struck with lightning?

Thinning fruit pays. Fruit can be too large for the market, but it seldom is.

The budding season for apples, peaches, pears, plums, and cherries begins in July.

Poison Ivy Preventive

George Dupler, writing in *Green's Fruitgrower*, tells how he overcomes poison from poison ivy. Just get some rusty, worn-out files, the rustier the better. Put them in the fire, get them red hot, and in the meantime procure some large bread pans or anything that will hold water, previously cleaning thoroughly, and fill with soft water. Drop your files while red hot in the soft water and shake pan while files are cooling. Bottle this tincture in a sterilized bottle and it will keep indefinitely. Rub it on exposed parts, hands, face, neck and around your ankles above your shoes, then go after Mister Poison Vine and kill him. Always keep contents of bottle shaken up while using, or if you get poisoned beforehand, apply same way, but prick blisters open before applying.

I never knew of any case of poison that could not be prevented or cured if tincture is properly made and applied.

Benefits of a Windbreak

That a windbreak is indispensable for fruit growing in Prairie Provinces will be seen from the following list of benefits secured by good windbreak protection:—

1. Sometimes protects from cold when fruit is in blossom.
2. Reduces evaporation, the excess of which causes drought in summer and root injury in winter.
3. Lessens amount of windfall fruit.
4. Lessens injury to trees from breaking when loaded with fruit or ice.
5. Holds snow and leaves thus preventing excessive evaporation and also providing additional moisture and organic matter.
6. Protects the blossoms which are often injured by both hot and cold winds.
7. Permits a more erect and more normal growth of the fruit trees.
8. Prevents drying out of small fruit on plants.
9. Prevents soil from drifting.
10. Sometimes causes fruit to ripen earlier.
11. Encourages birds to come to the farm. (They are beneficial as insect catchers.)
12. The windbreak is an ornament to the farm.

Help Okanagan Fruit Growers

It would be greatly in the interests of the Coast consumers of Okanagan fruit as well as the interior growers if pressure were brought to bear on the Government for aid in constructing storage warehouses for the conservation of the crops. More than one-third of the output of Okanagan found its way into the Coast markets, while the balance was shipped as far east as Ontario. If the interior growers could establish adequate storage houses in addition to the evaporation plants, it would allow them to send a steady stream of first-class fruit into the Coast markets, thus saving the necessity of swamping the consumers with more fruit than could be disposed of by the dealers, in order to get it off their hands at any price.—Thos. Bulman.

U.S. Beet-Sugar Production 1916

The following table gives some interesting data as to the production of beet-sugar in the United States during 1916.

Years	Tons Sugar made	Acres	Tons Beets marketed	price to grocer
1912 ...	692,556	555,300	5,648,000	$5.82
1914 ...	722,054	483,400	5,585,000	5.45
1916 ...	820,657	665,308	6,228,256	6.12

Apples in B.C.

R. M. Palmer, of Cowichan, of the B.C. Fruitgrowers' Association, says that there are some 20,000 persons in B.C. dependent on the fruit industry, in which $20,000,000 is invested. This year the apple crop appears to be about 800 cars in excess of last year. Some steps to assist in the caring for this fruit must be taken by the federal government in the matter of railway and cold storage facilities.

The Old Strawberry Patch

If weeds have got the upper hand of the patch nothing remains but to prepare the ground for another crop. If the land is rich and the owner has the good fortune to have a few spare potatoes on hand he will be in plenty of time for a late crop of tubers that will go a considerable distance in the direction of paying for all operating expenses of the field for the

year. Beets or the more quick-growing varieties of turnips will do well for a second crop, it is good practice to run the scythe or mower over the patch in order that all weed seeds may be cut off and the whole plantation treated to a liberal top dressing of manure. By the middle of September there will result a mass of foliage that will provide humus-making material for the next year. No better plot of ground can be had for a potato patch for next year. This method of cultivation will enrich the soil as well as cleaning it for future crop growing of any description.

The paths between the rows of the patch for next year should be carefully plowed with a sharp-sheared plow and the rows carefully hoed till not a weed remains in sight. The time to attend to this duty is the very day that the last berries of the season have been picked therefrom. When the hoeing and weeding have been done the patch may be left till that time for the winter mulching. In no operation about the garden should the warning "not how much but how well" be more heeded than in this clearing of the patch for next year.

Growing Sugar Cane

Farmers around Blenheim, Ont., are growing sugar cane again this year, owing to the high price of sugar. An old plant there has been re-opened and a Tilbury firm has installed machinery. Sorghum will be possible again on our pancakes this fall.

Settlers in Southern Alberta

Every part of Southern Alberta has benefited this year by the influx of settlers and the Coaldale, Grassy Lake, Nobleford, and Baron's districts have been the most fortunate in securing settlers. The immigration office at Lethbridge has handled more this spring than it has for the last two years.

The Raspberry Patch

As soon as the berries are harvested the dead wood of the patch should be removed and burned. The rows of berries should be treated to a good coat of manure and the bushes staked and tied. If the patch has become at all weedy during the summer the whole patch should be well hoed before anything else is done to the patch. The idea persists that a raspberry patch must necessarily grow dirty. This conception is entirely erroneous. Equally erroneous is the thought that the ground becomes raspberry sick. The writer is familiar with raspberry beds that have rendered good service for fifteen years and that bid fair at this moment to render another fifteen years of good profits. The secret is careful cultivation and regular supply of manure.—A. Kyle.

The minister delivered a sermon of but ten minutes' duration—a most unusual effort for him.

At the conclusion of his remarks he explained: "I regret to inform you, brethren, that my dog this morning playfully ate the portion of my sermon that I have not delivered. Let us pray."

After the service a man who was a member of another church shook the preacher's hand heartily and said:

"Doctor, I should like to know whether that dog of yours has any pups. If so, I want to get one to give to our minister."

FARMERS SHIP YOUR WOOL DIRECT TO US

We are now paying the highest prices ever paid for wool.

Mr. Farmer, you can get more money for your wool by sending it direct to us.

In all probability it will come to us anyway at some time, no matter to whom you sell it.

For over thirty years we have been one of the largest buyers of wool in Canada.

This proves we always treat our customers fairly, and pay top prices.

We are now paying for wool as follows:

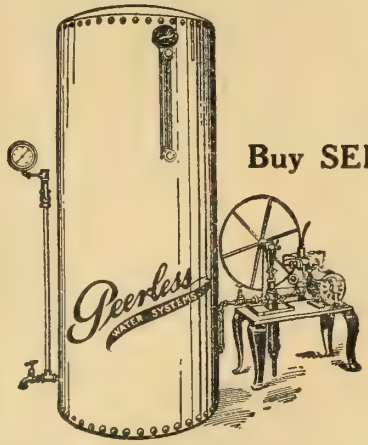
Unwashed fleece, fine .....55c to 56c per lb.
Unwashed fleece, coarse .....54c to 55c. per lb.
Washed fleece, fine .....69c to 71c per lb.
Washed fleece, coarse.....67c to 68c per lb.

We send your money the same day as wool is received, only deducting freight or express charges.

Ship to-day, or write us telling how much wool you have if washed or unwashed, and breed of sheep clipped from.

We will then quote you a straight price and send you shipping tags, with full instructions.

John Hallam Limited TORONTO



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GILSON ENSILAGE CUTTERS take ½ less power, make high quality silage, and elevate to unusual heights with ease. They outlast all others. The higher the silo and the harder the conditions, the more the "Gilson" is needed. Capacities 3 to 30 tons per hour, in sizes from 4 H. P. up. Thousands in use. Send postal TO-DAY for free catalog illustrating and describing "The Wonderful Gilson." Your gas engine will run it.

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OPINION NO BETTER THAN INFORMATION

FORTUNES have been lost, and are being lost, by men who have made or make bad investments, because of insufficient information, who take capricious opinion—their own or others'—as their guide in buying or selling.

"A man's opinions is no better than his information."

Paste this in your hat, on your desk—anywhere and everywhere as a good working principle.

Then follow the lead of this saying by having each week The Financial Post of Canada.

There you will get informed opinion—by many men trained to get at facts, to get ample information, and to interpret their knowledge lucidly.

In THE POST each week, you will find authoritative and well informed opinion—lots of it—grouped under these and other heads—Steel, Milling, Transportation, Pulp and Paper, Light and Power, Textiles.

You will find much else bearing on investments. THE POST will help you to acquire the broad and balancing mind of the well-informed banker or business man.

Issued every Saturday, $3 per year. Sample copy gladly sent on request.

THE FINANCIAL POST OF CANADA
143-153 University Avenue, Toronto
Telephone Main 7324

DESIGNING AND BUILDING THE PERFECT HOME

Who knows it all when it comes to planning a new home? Do you? Does your neighbor? Does your architect? Does your builder? What perfect home do you know of?

Now perfection may be impossible to obtain, but one can approach perfection by educating oneself concerning

the site, the plan, the style, the decoration, and other related matters.

Experience teaches. Therefore use the experience of others and their good counsels, born of errors and of successes, as found in the book—

BUILDING A HOME

By Desmond and Frohne, the editors of *The Architectural Record,* America's leading paper in its field.

(Price $1.50, with 15c extra for postage)

In this book are gathered together the counsels and experiences and suggestions of men who have had an exceptional opportunity to acquire wisdom in relation to the building of homes. The book is a beautiful one as a piece of bookmaking, and is richly illustrated. It is no economy to save $1.50 when you are considering the building of a home.

Send for the book now, and have it ready against the day when you will build the home of your dreams.

The MacLean Publishing Co., Limited
143 University Avenue, Toronto, Ont.

All queries must be accompanied by the writer's name and address. If personal answer is required, enclose a 3-cent stamp. Address all correspondence to Grasmere, THE FARMER'S MAGAZINE, *Toronto, Canada.*

STEAM PRESSURE BOILERS.

Mrs A. E. B., Ontario.—Kindly advise where steam pressure boilers may be bought, and the price of same; one that would hold about 12 quart jars—the same as demonstrated by Miss Addie Snyder at Washington, D.C. I read about it in May number of FARMER'S MAGAZINE, *page 58. Home Conservation of Garden Products.*

Answer.—These can be got through the Brown Boggs Co., Hamilton, Ontario. One of the chief advantages why here the steam pressure boiler is advocated is that a person is able to do up all their canning on the same day, that is peas, beans, and so forth as well as fruit and to save time where it would ordinarily spend over two or three days, but as you know this is not very much of a consideration with the average farm woman who has to extend the operation two different weeks of the year.

SOWING BEANS.

J D., Ontario.—I would take it as a favor if you could give me a few suggestions on planting or sowing field beans. I might say I am a beginner and this is my first attempt at beans. What I would like to know is what distance to have the rows apart; also, would it be all right to sow them with an ordinary seeder. I enclose an envelope with stamp and address. Thanking you in anticipation of a favorable reply. Must say in conclusion your paper is O.K.

Answer. — The marrowfat bean is grown in the Niagara district considerably and you can get fairly good returns from this bean.

Professor Zavitz advises the little white bean to be used throughout different parts of Ontario as the one that is surest and gives best results.

Yes, you can sow your beans with an ordinary seed drill by closing up some of the spouts so as to have the rows about 20, 22 to 24 in. apart, probably a little more if your land is not cleaned. It takes about 3 pecks to a bushel to plant an acre. They may be sown as late as the 10th of June and if the land is good and warm and in good tilth they will come along and give you a good yield.

HOUSE PLANS.

T. B., Sask.—I would deem it a favor if you would kindly let me know where it is possible to procure plans of the buildings published in your magazine by Genevieve.

Answer.—You may secure plans of any building that appears in the FARMER'S MAGAZINE by ordering them through us for $10, unless it is otherwise stated in the article. As, for instance, we can send you plans of the house which appears first on page 13 of the June issue, which is the same one which appeared in our January issue for $5. If you will write us your wants we will be only too happy to help you out by advising you. This issue carries one of the fine Manitoba plans.

TIME TO BUD.

J. B. K., Ontario.—Please tell me when to bud apples, peaches, pears, plums and cherries. Where should I bud? How large should the stock be on which to set the bud?

Answer. — Apple, peach, pear, plum and cherry trees are budded commencing about July first and extending nearly to September. Or the budding season may be considered open at any time when the buds to be inserted are mature and when the bark of the tree or stock opens readily, being full of sap. Budding cannot be done when the bark will not open freely and detach itself from the wood. Peaches are usually budded the earliest.

CHURNING DIFFICULTIES—SLIMY MILK

F. K. R., Ontario.—I have a Holstein cow which I have been feeding 3½ lbs. of the following mixture: 100 lbs. ground corn, 100 lbs. linseed meal, 200 lbs. bran, 200 lbs. ground oats, and clover hay. We noticed from the first that her cream would not churn; the longer we churned the thinner it was.

Answer.—The ration fed would not cause the difficulty in churning described. It may be that too thin cream is being churned. Cream should be skimmed heavy enough so that it will churn out about 3½ pounds of butter to the gallon.

Cream should be kept cool until about twenty-four hours previous to churning when it should be raised to a temperature of about 70 to 75 degrees Fahrenheit and held as closely to that temperature as possible. No new cream should be mixed with the batch later than twelve hours previous to churning. Also cream should be churned at least once in three days.

The churning temperature often has considerable to do with churning difficulties. About 55 to 60 degrees Fahrenheit is the best temperature. At this temperature, a churn not more than one-third full should yield butter in 15 to 25 minutes. If a longer period is required raise the temperature slightly.

The slimy milk indicates the presence of undesirable bacteria in the milk or a diseased condition of the cow's udder. Thoroughly scald all utensils with which

the milk comes in contact and examine the cow's udder, and the milk as it comes from the udder, for signs of garget or other udder troubles.

SOLDIERS ON FARMS.

D. S., Killeen's Farm, Cork, Ireland.—Would you kindly let me know what steps the Government of Canada, Ontario in particular, are taking to facilitate the acquirement of farm lands by returned Canadian soldiers?

Answer.—I am asking Mr. C. F. Baily, Asst. Deputy Minister of Agriculture, Parliament Buildings, Toronto, to send you a statement.

MAKING CHEWING TOBACCO.

A. H. W., Ontario.—Will you kindly give me instructions for the manufacture of chewing tobacco, and tell me where I could obtain a book on the manufacture of both chewing and smoking. I can grow it quite easily here but don't know how to prepare it after it is cured. Am enclosing stamp for reply, but I think this information would be appreciated by many others if published in your Rural Mail column?

Answer:—We submitted this query to the Tobacco Division. The answer is: We are not in a position to answer questions dealing with the manufacture of tobacco, especially chewing tobacco. That part of the industry is nearly altogether in the hands of the manufacturer, and it is generally admitted that most of the formulas and the processes used for the preparation of the various brands are a well kept secret.—F. Charlan, Chief.

Why So Cowardly?

We have two kinds of cowardice in us, maybe more, but the two I am thinking of are the kind of cowardice which makes us afraid to go to the doctor if we think we have anything seriously the matter with us and the other sort which leads us to indulge in headache wafers and all sorts of "instant relief" patent medicines, says Francis M. Beynon, in the *Grain Growers' Guide*. The graveyards are full of people who would be alive and happy to-day if they had not refused to face facts. Conscious of the growth of a tumor or cancer, or other ill, they seem to feel that keeping silence and denying their increasing ill health to themselves and others will in some way save them from the fate that is creeping upon them. When they become so ill that it is no longer possible to ignore it, the thing has gone too far, and medical aid is sought too late.

The other sort of cowardice is scarcely less serious. Pain is nothing but a danger signal, and it is merely childish to run out and snatch at something which deadens it for the time being, without getting at the first cause. It is pretty safe to say that no cause of headache or sickness can be removed instantly. To get the system into a healthy condition again takes time, perhaps hours, days or weeks, according to the seriousness of the disorder, but if one further complicates the trouble by putting the pain to sleep instead of getting rid of the cause of it, it is likely to go on from bad to worse.

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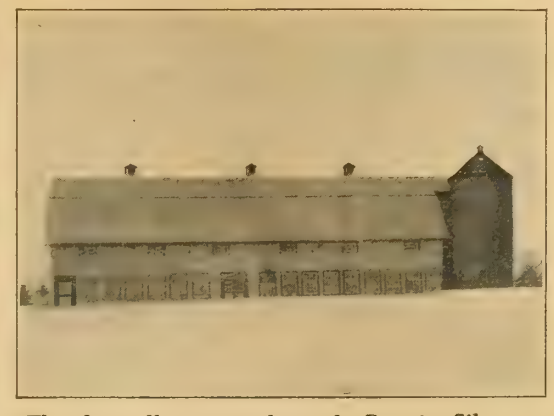
—if you would have the best silage—



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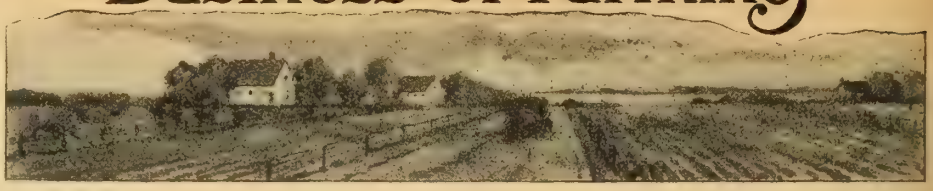
Business of Farming



Tractor Costs in Peel

With further reference to the work of the International Farm Tractor on the farm of Mr. Robinson, I now have the figures for the work. For cultivating the ground he used an eight-foot spring-tooth cultivator and a nine-foot harrow, doing 28 acres in 17½ hours and used 29 gallons of coal oil. This was the first field he worked on and was approximately one gallon to the acre, and the ground was ready to be drilled after the one stroke. For ploughing it required three ten-hour days to do 18 acres. This was a sod field and the furrows were about 6½ inches deep and 10 inches wide. It required 33 gallons of kerosene at 20c. per gallon and 1½ gallons lubricating oil at 60c. per gallon. This figures out to one and five-sixths gallons of kerosene per acre, and valuing the man's time at $2 a day and allowing nothing at all for the machine, the cost of ploughing was 75c. per acre. These figures are interesting and show that this tractor is an economical machine for the average farmer, and the work it did shows that there is no discount on that score.—J. W. Stark.

Experience With Potatoes

I notice on page 40 of a recent issue of the FARMER'S MAGAZINE that you advised the keeping of fresh manure away from the potatoes. Now this is directly contrary to what I have been advising and I think I will criticize you by telling you the following; Now old decayed manure does bring scab upon potatoes. In Ireland where I was manager for the Alex. Dickson Co. Royal Irish Nurseries, Belfast and Dublin, I saw some of the most profitable results on fresh manure. When I left there and went as manager for a Liverpool firm I had charge of all the farm work and the nursery grounds. I put down as much as fifty acres for potato growing. Small tubers used to be stored for seed to supply the retail stores belonging to the firm and the large tubers are used by them, as I had a contract to supply the large Cunard vessels sailing from Liverpool to New York.

My way of growing potatoes there was as follows: I would order four or five railway truck loads of fresh manure from the largest firms that had stables and I would take it from Liverpool to the farms by rail. Then it was hauled directly from the train to the field where the plowing was done, and it was thrown into the furrows by boys provided for this purpose. After this was done the seed potatoes would be drawn to the ground in sacks and men and boys would use pails to handle and plant the seed. A boy could plant three furrows at a time, placing the seed right on the fresh manure. After another plow would come along and split the ridges that were thrown up by the first plow. A chain harrow would then be used and afterwards a light wooden horse roller to give the whole an even appearance. No more attention would be required until signs of growth appeared and a cultivator was used to keep down the weeds. Now these tubers gave us a higher percentage than those planted in rotted manure and they were freer from rot or disease. I have seen excellent crops in Ireland, and it is a great saving to the farmers, as green manure is so much cheaper than rotted manure and can be contracted for from any military horse depot. I strongly advise the method and always will think what can be done in Ireland and England can be done in Canada as regards the manuring end of the potato crop.—H. F. East.

Farmers' Market At Selkirk

A farmers' market was inaugurated at Selkirk on June 16, under the direction of the Selkirk, Man., Board of Trade. All sorts of garden produce were on sale as well as seed grain, stock, farm implements and poultry. It is planned to make the farmers' market a prominent institution in Selkirk in order to bring producers and consumers into closer relation.

The Second Crop After Early Potatoes

As soon as the early potatoes are harvested, the whole field should be plowed and cultivated. In this way all tops are disposed of. If there is any spare manure it will be expedient to plow under as much as can be had. If cauliflower plants are available no mistake will be made in setting out a good supply. Tomatoes will do well on this field if set out early in July. Of course the land for the tomatoes must be warm and sheltered and the tomatoes must be warm and sheltered and the tomato plants well developed and vigorous growers of the late variety. Nor is it too far on in the season to sow buckwheat, a crop that bids fair to yield good money returns for some time to come. A glance at the market price of poultry and other fat stock will bear out this statement. Nor is it too late to sow the softer varieties of turnips, as these will mature rapidly on the rich potato soil and get ready for helping out in the feed problem for next winter. If the field is situated where it is readily reached by waggon, it will pay to sow corn to be fed in the stable during the trying days of August and September. In the case of the corn it is essential that the growing be more early in July and that the ground be highly fertile or the corn will not mature sufficiently. In any case the potato ground should be sown to some cover crop or its best constituents will leach rapidly during the summer.—J.A.

Acre Profit Competitions.

The Ontario Department of Agriculture through its District Representatives, conducted 53 acre profit competitions during

1916. These are open to young men who have taken the four weeks' courses in agriculture conducted by the District Representative. The prize was the Short Course in Live Stock and Seed Judging at the Ontario Agricultural College, Guelph, January 9 to 20, transportation to Guelph and return, and board and lodging while there. Fifty-seven young men took the short course at Guelph last month at the expense of the Department as winners in these competitions. Where eight or more contestants finished in a competition, two men were sent to Guelph.

In estimating the cost of operation, $5 per acre was allowed for the rent of the land, $2 for ploughing, 15c an hour for manual and 10c an hour for horse labor. The following is a list of the winners, giving some interesting figures as to cost of production and profits in various crops: —*C. F. Bailey.*

POTATOES.

COUNTY.	WINNER.	Yield bushels	Cost of Production	Profit
Middlesex	William S. Courtis, R.R. 2, Mt. Brydges	320	$44.67	$275.33
Sudbury	Napoleon Chenier, Hamner	295	38.55	256.45
Renfrew	Arthur Griese, Beachburg	288	41.25	246.75
Rainy River	Herbert C. Nixon, Emo	300	63.08	236.92
Algoma	John Wm. Simpson, Sault Ste. Marie	285	48.10	236.90
Temiskaming	Leonard Nickle, Hanbury	208	63.14	144.86
Northumberland	Chas. L. Ferguson, R.R. 3, Spencerville	161	47.55	113.45
Grenville	J. Arthur Down, R.R. 1, Hilton	70	53.87	16.13

How the Fruitgrower Does It

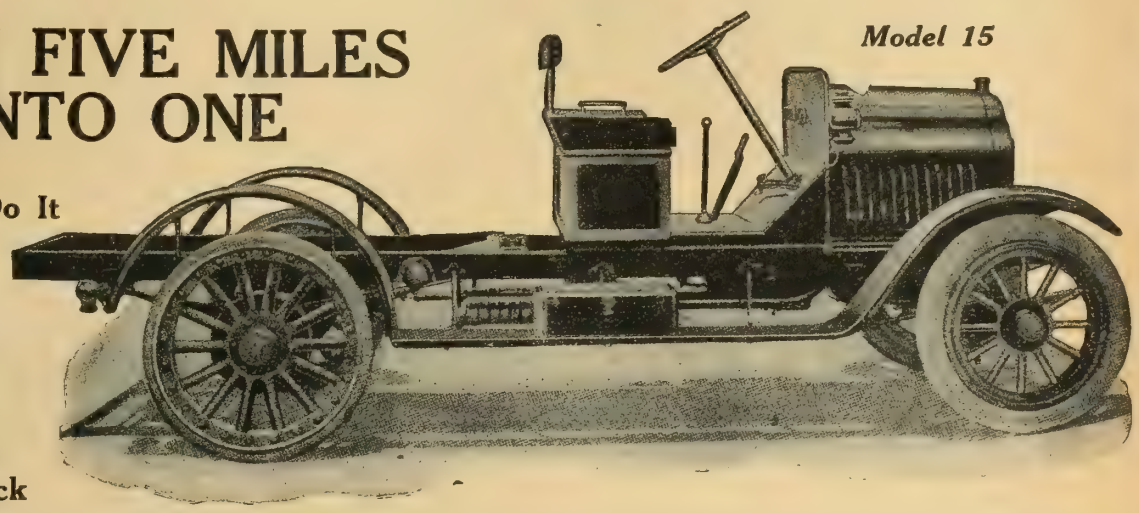
That there is an abundant field for good apples, is well illustrated in the case of J. N. Knapp, of New York State. He produces his apples by feeding the trees, pruning and spraying. The trees are headed low.

The marketing end is just as efficient as the producing. The apples are hand-picked and put in bushel crates. He ships these to prominent people who want the best no matter what the price. He then makes a proposition to put the apples in cold storage and have them delivered as they need them. The charge for this does not run over 50 cents a barrel and he gets top prices for his apples by this method.

Out of his 15-acre orchard he nets $6,000 to $8,000 a year.

TURN FIVE MILES INTO ONE

Model 15



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About Live Stock

Shorthorns Are Careering

Shorthorn prices have been doing some old time tricks at the U.S. sales during June. Outstanding among the many sales was Carpenter & Ross's big sale at Mansfield, Ohio. These well known breeders sold 107 head of imported Shorthorns in five hours for a total of$146 575. These animals were imported from some of the best stock farms of Great Britain and lineages from nearly half of the stables over Canada were present. The top of the sale was $7,000 for the Duthie bull Caledonia. The highest priced female was Brandsby's Jinny 18th, which went for $3,100. A Canadian, J. M. Guardhouse, of Weston, ran the price up to $3,000. The cow went to California. P. M. Bredt, of Calgary, was a bull purchaser. Four Shorthorn sales in Chicago at the same time realized an average of $1,120 for 237 head.

Manure Worth $12.31 per Steer

A recent test at Kentville, N.S., Experiment Station for manure values of fattening steers, showed that at the valuation of $2.63 per ton, 112 tons, 640 pounds would be worth $295.40, or $12.31 per steer, a little over $3 per steer per month. Considering that potash will each year become a greater factor in economical agricultural production, the value is even greater than that given above.

Hereford Imports

J. A. Chapman, Hayfield, Man., has returned from Indiana, where he purchased ten high class Hereford bulls. One of these is to be used as a herd bull at Island Park farm, the remainder will fill orders already received by Mr. Chapman. The herd bull is Mack Fairfax, and was purchased by Mr. Chapman at the auction sale of Warren T. McCray, Kentland, Ind., at a long figure.

The Joys of Breeding

The successful breeder must know how to feed, care for, and develop his animals properly. The most excellent individual may be ruined by improper care. So then along with knowledge and skill in the art of feeding must go an expert ability to recognize condition in an animal, to detect and correct the slightest impairment of health and vigor.

Altogether the real breeder must combine many and varied abilities with his natural love for good animals. And what is the reward? To the *real* breeder it is great and manifold. He will have the satisfaction and emoluments of a creator of something new and needed. The world will always need better animals and be prepared to pay for them. How well it will pay, everyone who reads live-stock journals knows. Prices for breeding animals numbered in five figures are of such frequent occurrence as to excite only passing comment. Furthermore, the joy of creating these new and better animal types is the breeder's. In some degree he may justifiably feel that he is guiding the forces of nature to the working out of an ideal, which is his.—Raymond Pearl.

Easy Way to Get Cattle

Over twenty thousand dollars' worth of pure-bred bulls have been purchased this season by farmers of Saskatchewan, under the system whereby the livestock branch of the Provincial Department of Agriculture gives assistance to farmers desiring pure-bred cattle. This amount is more than was supplied in the two previous seasons and has been made possible by the increased grant for this purpose this year. The grant was increased from $50,000 to $250,000 for the purchase of livestock for sale on part cash and part credit basis.

Mr. Bredt, acting Livestock Commissioner, has pointed out that since $750 worth of heifers can be supplied on a one-third cash basis, two farmers by joining could order a carload, about $1,500 worth of stock and pay one-third cash, the second payment coming due December of the next year and the last payment twelve months after that.

Selling Their Cows

New York has 75,000 yearling heifers less than it had a year ago at this time, says *Hoard's Dairyman*, and the cow population of that state has decreased 140,000 in the past ten years, an average of 10,000 per year. It is estimated that Massachusetts has sold 20 per cent. of her dairy cows this spring; New Jersey is shipping many carloads of milk cows to market; and Pennsylvania dairy farmers are reducing their herds.

Fall or Spring Calves

Most of the calves on farms are born during the spring months, but in recent years quite a number of farmers have adopted the fall calving plan, says S. H. Ray in a U.S. Bulletin on the Production of Baby Beef.

The following seem to be the advantages of this system:

1. Calves born during the fall months are not bothered with flies, screw worms, maggots, etc., and hence they need less attention after castration and dehorning.
2. The young calf needs no grass until weaning time. The fall-born calf can, therefore, suckle its dam during the winter months and when weaned may go directly on pasture.
3. The fall-born calf fits in with pastures somewhat better than those born in

the spring. His first summer is spent on the pasture, and at the end of this period he goes into the dry lot for finishing. On the other hand the spring-born calf must be fed during his first winter, and when the pastures are ready usually he can not be placed on them because he has reached the finishing period and should go into the dry lot.

4. The farmer who sells milk will derive profit when his cows freshen in the fall, since milk markets are better during the fall months.

5. Finishing calves in the fall and early winter interferes less with the other farm work than when it is done during the spring and early summer.

The disadvantages of fall calving are:

1. In extremely cold climates calves born in the late fall will suffer from the cold, and unless warm barns are available fall calving is not practicable.

2. More feed is necessary to maintain the cows when they are nursing calves, and during the winter months this will add somewhat to the expense of keeping the herd, since pastures are not always available.

3. Unless the farmer buys cows bred to calve in the fall he can not make the change from spring to fall calving without losing six months of service from the cows.

Those breeders who have tried the fall calving plan seem to favor it highly, but it will not work to advantage under all conditions.

My Prairie Farm Story

Rosedale is a prairie farm of 160 acres. Like all prairie farms, wheat is my profit or money crop. I sow 10 acres of barley and harvest it early, also 25 acres of oats, cutting 10 acres of the oats for green feed. I then work the free 20 acres as a summer fallow for next year's wheat. I keep 20 acres seeded down with timothy and Brome grass, breaking and backsetting this every third year. I also summer fallow 25 acres, on part of which I put potatoes, roots and corn.

On my wheat land I spread all the manure during the winter, having plowed it in the fall. In the spring I burn off the manure and harrow the ground, sow it and then pack well to secure moisture.

I keep a few cows, two Holsteins and one Jersey. Also prefer Berkshire pigs here. In poultry I have 300 Leghorns and Plymouth Rocks, keeping them pure.

The house and garden has a willow bluff to the north and west, making a fine windbreak. I plow the garden in the fall and then harrow and burn manure off in the spring. My crabapple trees, small fruits and strawberries do well here.

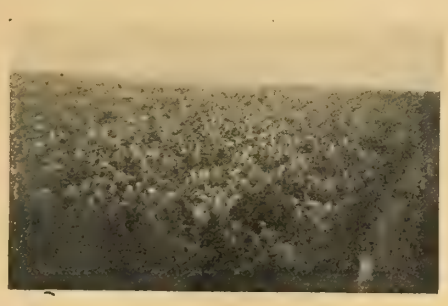
The farm is well fenced with the buildings modern. I use a gasoline engine for pumping, running the fanning mill and grain crusher. The house and barns are lighted with an electric system, which also supplies power for the small kitchen machines as churn and washer.

I drive a McLaughlin car for pleasure and profitable marketing. I believe the farm is the best place for real content and independent happiness.—Mary Lowrie.

Ploughmen in Scotland

Continued from page 7.

it is now very scarce and when obtained is very unsatisfactory. Now, soldiers whose training is finished are sent to farmers and they certainly do much to help the work on during haytime and harvest, but in many cases they are not accustomed to farm work and, therefore, of little use for a long time. It is said that the government is going to send out men who may not be fit for active service to farms to assist in "food production," as it is called, when farmers are short of hands and perhaps ploughing a little more for the production of oats or potatoes. If this is done it will make a great difference to agriculturists. While the lot of the Scottish farm worker is not a very hard one, it is monotonous. He has little time to himself. In some districts he has the Saturday afternoons; but he has few holidays. Perhaps the hardest part of his life is that there is so little hope of bettering his position. Very few are ever able to become farmers on their own account. So much capital is required in this country that few, indeed, ever get out of the rut. There are many experienced men among them who might do well in a holding of their own if they had just a beginning. It is true that a system of small holdings is begun and some men are now getting the chance of making good, but as yet the number is small and the conditions are rather trying. The interest on the outlay is heavy and to take a holding and do well in it, the man must have some extra capital of his own. The money wage of a ploughman is so small that a fifty-pound note even takes a long time to gather and much self denial must be exercised to do it.



Growing Corn on a South Manitoba farm as taken by the Editor's camera.

We require a system of "agricultural banking," if it may be so named, to advance money at a reasonable rate of interest to approved men to enable them to make use of the experience and knowledge of soils they have acquired from day to day, to enable them to rise out of their present hopeless condition.

There are signs that the farm workers as a class are beginning to think of such things and as they are a very numerous body and fairly well organized, something may be done in the near future at least to ameliorate the conditions of their lives.

THE SONG OF THE PLOW

By NINA MOORE JAMIESON

I will sing you a song of the cleaving plow,
A song of the wandering breeze,
A song of the sun in the radiant sky,
A song of the greening trees
Forth in the crisping morning air
With my horses down the lane—
I answer the call of the ancient earth
When the spring draws round again!

Now the world is new from the winter's sleep!
The clouds are faint and high.
The fair wind frolics upon the hill,
The shadows skip and fly!
Then hey! for the plow and the moist black earth
With promise of life and health!
My treasure lies in my little farm,
My body is all my wealth.

I own no silver or minted gold
Save only the glowing sun—
The stars are my jewels rich and bright
To wear when the day is done.
A sweet content and a strong right arm—
What more can a mortal ask?
The daily toil meets the daily needs,
The plowman joys in his task!

The whole outdoors is my work-shop vast
The plow is my ready tool;
With the rain and the sun I toil to feed
King, commoner, sage and fool!
The royal wheat in its beauty tells
The path of my gallant plow,
I would thank the Lord for my golden chance
I would thank Him—if I knew how!

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It disinfects and paints at the same time.

It is a finely powdered mineral pigment combined with a germicide 20 times stronger than pure carbolic acid, but absolutely non-poisonous. Will not harm man, beast or fowl.

Ready to apply as soon as mixed with cold water—no waiting, straining or bother as with whitewash. Can be applied with either brush or sprayer. Dries a clear white. Will not blister, flake or peel off. No disagreeable odor. If your dealer cannot supply you, send us your order and his name.

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Rats spoil your grain, kill your chicks, cost you much money, cut down your profits. Just crumble up a

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where they run. Rats seek it, eat it and die outdoors. Easiest, quickest, cleanest way. Price 25c at all drug and general stores.

The Rat Biscuit Co. Springfield, Ohio U.S.A.

For roaches and water bugs use Rat Bis-Kit Paste—the new Poison in the Tube—25c.

The Business of Dairying

A Record Holstein Sale

A pace that will be hard to beat was set at Worcester, Mass., during the first week of June, where a Holstein consignment sale reached the almost incredible totals of $296,470 for 143 head. King Ormsby Jane Rag Apple, an under-six-months bull calf, son of the world's champion milk and butter cow, sold for $53,200, and a cow went for $18,300. There were 59 animals that each sold for $1,000 or more. Thirty breeders contributed and the average price was $2,073.20. Advanced registry production was the standard set, and the prices came easy.

Making Devonshire Cream

There is likely to be a new industry started among Quebec dairymen. The making of Devonshire cream, concerning which a writer in the FARMER'S MAGAZINE not long since reported, may be gone into in a large way. It is said that the matter of clotted cream practically identical with the far-famed product of Devonshire is feasible in Eastern Canada.

Registered Bulls Pay

A few years ago, when very good dairy cows were selling at $65 and $70 a piece, we accompanied a cattle buyer on his rounds in Peterboro, Ont. This buyer was establishing a dairy farm in the Slate River Valley. His intention was to develop a large business in milk with the nearby city of Fort William. Good grade Holsteins were his object. We visited farm after farm, but no purchases were made, although any number of cows could have been had at $55 and $60. Finally, we turned in at a farm where a large black and white herd was seen in the barnyard. They were splendid animals; all grades but all of correct dairy type with well developed udders, good milk veins and uniform markings. The buyer looked them over and then offered their owner a flat price of $85 each for the whole 20, including a considerable number of two-year old heifers. That was the highest price, up to that time, that I had ever heard offered for grade dairy cows of any breed. The offer was promptly refused.

Before leaving we learned that only eight years before, that herd had been just an average bunch of native cows of every color, shape and breed, but with Shorthorn blood predominating. Returns from the cheese factory averaged less than $30 a season. A pure-bred Holstein bull of good breeding was purchased and used. He was succeeded by another and yet another. A cow-testing association was formed; one of the first in Ontario. Breeding was then accompanied by rigid weeding out of the poor milkers. At the time of our visit the mature cows in the herd were averaging over 10,000 lbs. of milk yearly. The profits were good enough to make an offer of $85 each something not to be considered.

Does grading up with a registered sire pay? Ask J. K. Moore & Son, Peterboro Co., Ont., of whose herd the foregoing is a brief sketch.—F.E.E.

Good Bull Control

Mature bulls are never to be trusted, yet it would be almost a crime against the live stock industry to slaughter a bull of proven value, just because he is becoming somewhat vicious with age. Allison Bros., in the County of Dundas, Ont., did not want to kill Sir Lyons Segis, their great herd bull, nor did they wish to risk their lives around him. When we last visited their farm, they had solved the problem of controlling him safely, quite to their satisfaction.

We found Sir Lyons Segis in a big, roomy box stall around which he could move freely, but still under the full control of the attendant. Over the centre of his stall, attached to the ceiling, is a strong pulley. Right above the partition separating the stall from the alley, there is another pulley attached to the ceiling. A stout rope passes through these pulleys, the one end attached to the ring in the bull's nose and the other end of the rope is weighted. The weight is not so heavy but that Sir Lyons can move around quite freely, but the weighted end of the rope is always right at hand to pull him to attention when he is needed. The device has proved entirely satisfactory.—F.E.E.

How Jamaica Natives Milk

I. M. Mapp, in describing the success attending the introduction of Holsteins in Jamaica in *Hoard's Dairyman*, says: When we came here some years ago from the Island of Barbadoes, dairying was in its infancy. People wondered, where I enquired, if it were possible to get green corn fodder for the cows. Cows were allowed to run almost wild on the "penns," as the plantations here are called, and a few of them would be caught mornings with great difficulty and milked in the native style; that is, a man ties the head of the cow to a tree or post and then starts to drag at the teats with one hand while he holds the milk bucket with the other. If the unfortunate cow made a movement the bucket was, of course, the most convenient thing to strike her with. This was kept up till all the cows were milked. I forgot to mention that each cow had to have its calf with it to suck while the man milked or it would not give the milk. If

a calf died the dam would go dry, if a calf of the same age could not be found as a substitute. These cows gave from two quarts to five quarts of milk. If one gave six quarts it was considered quite a fine yield. Now there are some dairies where more modern methods obtain, but the system of taking away the calf at birth and milking the dam twice daily is not popular.

Defends the Jersey

A lover of the Jersey cow in defending her from an attack of a Holstein admirer, says:

Utility and beauty are combined in the Jersey cow. It doesn't matter who cares for the Jersey, whether it be man, woman or child, she will respond to kindness the quicker of the two breeds; and it does not matter what the cow is, she has got to be treated with kindness to get the best results. If I had a man who used a milking stool on my registed Jersey, I would give him a new job immediately; we do not need him in the barn.

We now have a bunch of registered Jerseys that are making a good net income. You can keep four Jerseys on what three Holsteins would eat and the Jersey will make a pound of butter at least three cents cheaper than the Holstein. The Jersey will adapt herself and do business in any climate on the globe, whether it be north or south. The Holstein is best suited to a more temperate climate, and is not a cow that has stood and grown through the southern cattle tick like the Jersey. Way up in the north where they have three months summer and nine months winter, the little Jerseys that are so hard to handle are coming out with grand records.

Who are the men fighting to lower the standard of milk? It is the Holstein men. They complain because the consumers, cheese factories, and condenseries are beginning to wake up and buy their milk on the butterfat basis. Which of the cows are producing the highest priced certified milk? It is the Jersey and Guernsey. They have got the quality and the goods.

Cochrane to Get District Representative

In a recent trip to the Claybelt, C. F. Bailey, assistant Deputy Minister of Agriculture, said that the Government had decided to appoint a District Representative at Cochrane.

The Holstein Cow for Beef

A striking illustration of the value of the Holstein cow for beef after age or accident has ended her usefulness in the dairy is furnished by Mr. R. W. E. Burnaby, Jefferson, Ont. The cow, Teresa Sadie Vale, with a record of 26.03 lbs. butter in seven days, became barren and was sold for beef. She weighed 1,600 lbs. and at 10 cents per pound brought the tidy sum of $160.—W. A. Clemons.

A World's Record

A Holstein cow, that has been under test by Gordon Manbard, manager for W. L. Shaw, at Roycroft Farm, Newmarket, has recently won a world's record as a four-year old. She gave 856.9 lbs. milk and 32.61 lbs. butter in seven days and 3,570.7 lbs. milk and 135.64 lbs. butter in 30 days.

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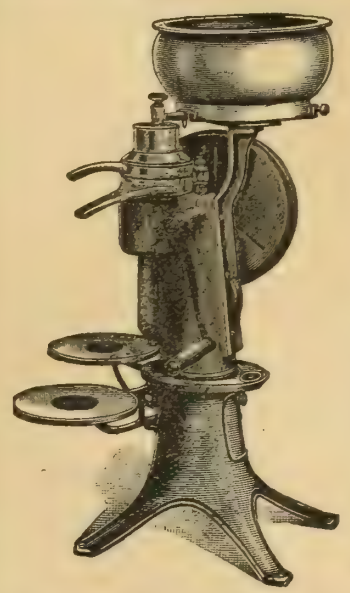

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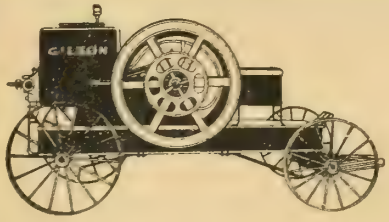

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In The Poultry Yard

Russia's Egg Trade

Russia has been noted for her large egg production. Their method of preserving eggs is to break them, separating the yolk from the whites and sealing the yolks in glass containers for use later on. The whites are sold for manufacturing purposes and altogether the farmers make big money out of their poultry business.—N.S.

Preserving Eggs

Water glass is *sodium silicate.* It can be bought in the dry or the liquid state. A twenty-five cent package of the dry glass will preserve 20 dozen eggs; the liquid glass can be obtained at about 75 cents per gallon when bought in moderately large quantities.

Bring 15 quarts of water (preferably soft) to the boiling point; pour in slowly one and one-quarter pounds of the powder (a 25-cent package), stirring vigorously to prevent the formation of lumps. Cool. Pour the liquid into stone jars or butter crocks that have been scalded out with water, half-filling the crocks. More liquid may be added, if necessary, when the crocks are filled with eggs.

Great Britain's Poultry Business

Sharp discussions are taking place in British poultry journals over the value of eggs in the dietary and in the feeding rations for fowls in order to conserve human food.

Dressing Poultry

All fowls should be fasted from twenty-four to thirty-six hours before killing. When this is not done the food remains in the crop and intestines, the result being that the flesh soon becomes tainted and does not keep well.

All classes should be killed by bleeding, preferably through the mouth. It requires but a little practice for anyone to become an expert at this work. First, the bird's feet should be tied by means of a small rope or cord, and suspended at a height about level with the picker's shoulders. Any sharp knife with blade three inches in length may be used for bleeding. Grasp the bird's head just at the juncture of the neck and head or at the ear-lobes, then with the third finger open the chicken's mouth. Insert the knife and cut rather lightly. The bird should bleed freely as this should cut the two large blood vessels at the end of the neck; following this the knife should be drawn out and inserted in the long opening in the roof of the bird's mouth and then quickly pushed backward so as to pierce the brain. If the bird does not squeak, the brain is not pierced which means tight feathers or hard picking.

The chicken should be plucked immediately, removing the long wing feathers, and tail feathers first, then each side of the breast, next the legs, and lastly the back. Do not try to pull the feathers either forward or backward, but more sideways or at an angle. The coarse feathers should be removed in about three minutes; do the work quickly and the feathers come out easily; if slowly done, the process is long and tedious. For instance, remove all the coarse wing feathers of each wing at one handful, also all the tail feathers. To remove pin feathers use a dull round-bladed knife, similar to the ordinary paring knife. Be careful not to rub or bark the skin. This may be done by rough handling, or by placing the chicken in contact with coarse clothing. If you should tear the skin, hold the skin at torn part tightly to the body between your fingers, and then carefully remove the feathers near the torn part. A little practice will enable anyone to remove the rough feathers in from five to ten minutes.

The birds should be plucked clean, the mouth wiped of all blood, and the dirt washed from the feet.

The chicken should now be placed on a shaping board, which any handy man can soon construct. A weight of iron or a brick placed on the top of the chicken gives it a better appearance.

C. H. Pethick.

Durham Co., Ont.

Alberta's Five Years' Record

In 1911 fifty-six creameries operated in Alberta and made 2,540,000 pounds of butter, valued at $635,000. Eight cheese factories reported a cheese production of 100,000 pounds, valued at $14,000, says C. P. Marker, Dairy Commissioner.

Five years later (1916) fifty-seven creameries made 8,521,784 pounds, of butter, worth $2,619,248.14, and sixteen cheese factories made 745,122 pounds of cheese, worth $154,453.74.

These figures show that the production of creamery butter had increased in that time 235 per cent. and the selling value per pound was 23 per cent. higher. In cheese the factory production increased 645 per cent., and its selling price per pound 48 per cent.

The total value of Alberta's dairy production last year was estimated to be well over $12,500,000.

The Outlaw Boar

By CLARK E. LOCKE

IT was at that hour on a summer afternoon when the oblique rays of the sun strike hottest, and the rocky islets and shores of Georgian Bay, circled by clear water, appeared warped and twisted in the heat haze like great convolutions of black India rubber. The sky was brazen; the water lay, a vitreous sheet of pale green glass, and the stunted pine trees on the shore drooped as if even their hardy weatherwise forms were about to shrivel into flames at a moment's notice.

In a little bottle-necked inlet a quarter of a mile in diameter, the humidity was intensified. It was as if some gigantic unseen hand were holding up a huge lens to concentrate the burning rays in this particular quarter. The whole place palpitated and shimmered with the heat of the tropics. There was no sound at this hour of the day. The last vagrant gull had followed the creek channel far inland, and the querulous notes of the earlier hours were hushed. A pile of drying clamshells on a muddy shoal showed where an industrious muskrat had given over his task until a cooler season, and the chorus of the frogs in a reedbed had waned into a bronchial murmur. But to one creature at least was the day well-tempered, and the heat pleasing.

A slight crackling occurred in a mass of dried branches, and with a faint rasping of scaly armor along the rocks, a large female rattlesnake of the diamondback variety, lengthened down from boulder to boulder, and made for the water's edge. The creature was gorged and unwieldy, and plainly travelling through new territory, but even so, wormed along cracks and crevices with marvellous ease. Coming upon a flat table formation, the height of three inches above the brink, she coiled in an attitude of wariness. From side to side the flat, evil-looking head swayed slowly, and the steady, unwinking bead eyes studied the slightest movement in the neighborhood. Apparently satisfied, the head was lowered and immediately the place was peopled with a dozen new inhabitants. The monstrous jaws opened as if with a spring, a faint, sibilant hiss was heard, and forth from the interior issued a mass of tiny, wriggling serpents, gliding vigorously about and exploring a new habitation. Coiled again, and poising motionless as the limb of a deadfall, maternity watched for the slightest flicker of danger from sea or land. Gradually her caution relaxed as minutes passed, and, coil falling from coil, the heavy rope-like body straightened out, and the whole reptilian family basked in the sunshine.

Five minutes later a scrape was heard on the rocks, followed by the sound of an animal coming to water. In a moment the wriggling midgets had disappeared in the family cupboard, the rattler had coiled into position, and the warning buzzed forth on the quiet air. Around the corner came the intruder, and eyes of mutual distrust crossed on the instant, for surely a stranger pair had not met in the wilderness for years.

It was a huge black boar, maddened with heat and lathered in foam, which came hastening gingerly across the rocks towards the brink. Sighting the bulk of the coiled adversary in the path, he halted. Suddenly his eyes reddened and his jaws began to champ. Trotting with the peculiar sideswing of the fighting hog he advanced to within a yard's length, and then lunged. At the same moment the serpent struck. Neither blow drove home however. The side sweep of the boar shot him over the reptile, the fangs of which in turn missed by a hairbreadth. In a moment the snake lashed back on a halfcoil and the fangs struck in the rough bristled mane of the assailant. The advantage was only momentary as the great jaws of the hog champed like a vise about his middle, and in a moment the vertebra had snapped beneath the grind. The finish was a matter of moments. Infuriated at the interruption, the victor mauled and mutilated the crippled prey into the semblance of a bloody rag, and then with head and shoulders spattered in gore, rushed into the mudflat and wallowed in the murk with great gasps and gurgles of relief. When the sun crawled down to the west, an hour later, he clambered out of the bath, shook himself like a dog on the bank, and turning his massive head inland, trotted briskly into the bushes.

WHEN in the spring of 1913, the Twin Sister Islands of the Point au Baril region of the Georgian Bay was learned to be harboring innumerable rattlesnakes, and when Cyrus J. McShane of Pittsburgh, who had contemplated coming up in July to erect an eight thousand dollar summer bungalow, heard of the fact, there were many unconventional messages transmitted along wires through sleepy little Canadian towns. Yawning, red-haired operators straightened up with a grin as the contents buzzed into their ears for transmission. When these contents reached their destined party, one Tom Barton, trapper, fisherman, summer janitor and general factotum, there was excitement in the village. The fact was that few people had any idea as to means of getting rid of the plague, and those who did have their own opinions did not believe in them strongly enough to put them to the test. Had there not always been snakes in the district? Moreover, the rattlers in question had never been proved deadly. Naturalists had pretty well agreed that the further north the habitat of a poisonous biter the less dangerous the venom really was. But no one was willing to experiment; one couldn't tell what would happen. In the meantime the wires continued, each one increasing if possible the abusive asperity of the last.

It was an old woman who finally gave a workable suggestion. "I have heard," she said cautiously, "that hawgs will kill snakes. In fact some folks says as it was hawgs, and no saint, that cleaned up Ireland, and killed and ate every blessed varmint in the place."

"Shall I try hogs?" telegraphed Barton in desperation to Pittsburgh.

"Try anything on earth. Buy a carload if necessary," came the choleric reply.

Thus it came about that fifteen ill-nourished grunters, gathered up at popular prices from neighboring farmers, found a habitation for the summer on the Twin Sisters. Thereupon the rattlers disappeared with marvellous rapidity. No man saw the process of extermination, but it was none the less thorough. When McShane ran up in the fall to see the drove gathered in, not a trace of a serpent was found on the place, and the porkers had waxed fat. In the last count, however, one was missing. A promising young boar, remarked upon for his size and strength, could not be found, and the party returned, believing that the animal had come to an end in some way in the woods.

BUT this was by no means the case. As a matter of fact he had made a burst for liberty, and had attained it, unknown to his pursuers. When the drivers had landed on the island and the drove had rushed headlong through the narrows to the pen the taste of liberty which the black pig had enjoyed, spurred him to escape to the distant shores. He had plunged in, and his black, glistening shape, ploughing through the half mile of water, had been missed in the skirmish of the last exciting round-up.

There are days of emancipation in the lives of animals as in those of human beings. The escape of a Barb steed into an American wilderness, or of a circus-trained leopard into a strip of country woodland, is as much an unshackling of elemental forces as the plunge of the old time *courier-du-bois* into the aboriginal freedom of the back woods. So it was with the black boar of the Sister Islands. From the day of the round-up he was one with the creatures of the wild. He was, moreover, a wanderer and a pariah. For him there was no more guzzling at a trough of man-made swilly provender; no more swinish sprawling in mucky barnyards. But there were acorns to be found and berries in abundance. Even an occasional snake could be snapped up if one were but quick enough. Greatest of all, however, was freedom.

It is a strange reflection on animal nature, as on human nature, that successive generations show the cropping out of ne'er-do-wells. By this time it has become well recognized that the race seems bound to produce wild, restless spirits at intervals,—men who chafe at the bonds of conventionality, whose blood is filled with wanderlust, and whose hunger for adventure and freedom from restraint, fills the hearts of mayhap kindly Christian folk with vague alarm and apprehension. Whether these persons represent a sort of harking back to the earlier days of civilization, or whether they are merely born as "freaks," rebelling at their sociological outfit, there may be drawn a strange parallel with the animal kingdom.

Sometimes a horse is born, bigger and more finely developed than his fellows. Great promise is expected at first, but there develops a wild moodiness of temper that nullifies a burst of speed or turn of strength, and he becomes at once the pride and despair of his trainers. Should he escape to the wilds, such a life expands into a chapter of wonderful and inspiring adventure. Harnessed and confined, his services are disappointing and his life is shortened. Such a creature was this black boar of the north. From the midst of a litter of shoats he had developed in-

to an amazing specimen. Even in the pen, his hide had held a gloss that none others could show. His head and shoulders broadened into a symbol of mighty strength, and such tusks had not been seen in a generation. His temper, too, had always been dangerous; no one dared set foot inside the palings. Now the day of independence had dawned.

AS the pig clambered up on the shore that day and shook his flanks, his one thought was to put as much distance as possible between himself and the distant shouts and thwacklings; so he broke for the interior. Scrambling up rocky defiles he blundered along for a couple of miles, struck into a berry patch, and paused to grub around. In a moment, however, he became aware of another presence among the blueberries. A large black boar, moving stolidly about, had noticed the intrusion and halted to watch. Catching sight of him, the boar, with a flash of rage, ground his fangs and lunged at him. The bear, taken unawares by the charge and the unfamiliar apparition, bolted off up the slope in a panic. With a grunt of anger and a feeling of the utmost satisfaction with himself, the new comer returned to his feast. For an hour he guzzled amid the luxurious growth, and then, in the densest part of the patch, sprawled asleep.

The experience was a critical one in the life of the adventurer. For one thing, it established a wonderful self-confidence, an unwarranted appreciation of his strength and fighting ability. It turned the boar from a creature fleeing the thraldom of man into a lord coming into his own country. Henceforth he feared nothing. When the most threatening black creature would bolt from his presence, surely the wild could hold no terrors for him. Moreover, it established an unwise contempt for the bear, a contempt that would some day be modified. Had he but guessed the crushing strength of those hairy arms, or the fearful constrictive power of his hug, his eyes would have twinkled with more of cunning and perhaps less of triumph.

For three days the berry patch held out, and then hunger demanded new fields. Trotting across the rocky slopes the pig discovered himself possessed of a strange facility, little guessed before. His feet did not slip dangerously on the rocks. It was now four months since the drove had been set at large, and, like the gripping caulks of the mountain deer, so the caulks of his hoofs were becoming adapted, and it was with safety, mounting into ease, that he ran up and down declivities.

His frame, too, had taken on a great strength. Born with head and shoulders of unusual power, these had developed in warrings of the herd until they possessed not only a formidable aspect, but constituted a mighty engine of combat. Great slashing fangs, protruded from his jaws and an abundance of coarse-grained mane on his muscle-matted forequarters, defied any minor attacks. Only an enemy big enough to break the neck at a sweeping blow, or wary enough to avoid the shock of that battle-scarred shoulder, could hope to escape a mauling from his tusks. And, now with his lean razor-back frame pulsating with hunger and, grunting angrily at intervals, the hog coursed along the bay shore on the search for food.

Something flashed up in his path. The lithe, slender form of a marten leaped straight as a die at his throat, and teeth met in a mighty grip on the heavy bristling hide. In a spasm of impatience the hog turned aside and, kneeling, crushed the little adversary to the rock; at the same time raking him head to toe with his mandibles. He then tore the carcase to pieces and devoured it. This action marked another milestone in the life of the freebooter. From that day he became kin with the flesh-eaters of the woods. A new exultance thrilled his frame and, as he coursed along with hunger somewhat dulled, the last remaining shreds of his old life fell from him, and he became literally a beast primeval. Coming upon another blueberry patch, he fell to devouring with avidity, grinding down the pulpy fruit with great masses of foliage; but somehow, it lacked the former satisfaction. The blood lust had set its grip upon him.

One still noon hour he stood quietly in the shade of a bush on the shore line, gazing stolidly out across the water. He had risen from an hour's nap, following a morning's foraging. Suddenly a ripple started, and the round head of a mink appeared, bearing in its jaws a large pike. Straight to the shore the fisher came, and laid his prey for a moment on the flat rock, while he shook himself. In that moment the boar sprang from the covert with a grunt, and shot down upon him. The nimble weasel, with a cat-like turn, somersaulted into the water, leaving his catch to be crunched by the assailant. This incident was typical of his life. He was a tyrant and a freebooter. Every creature was an enemy, and if not too large, legitimate prey to rob and feed upon.

OCTOBER had lengthened into November, and the north country was growing bleak and bare. Berries had given out; even the cranberry marshes were becoming denuded, and food was becoming scarcer with the frost of every night. The ragged lines of emigrating geese and ducks were growing smaller every evening and, with the approach of the great white season, the little people of the wild developed unusual wariness. Nothing was to be snapped up now save an occasional water snake, gathered in a rush through the cold marsh water. With winter fast becoming on, the plight of the boar was growing serious. His frame became leaner and more attenuated, but continued muscular and powerful. Never had his agility been so remarkable nor his endurance power so great, but the pinch of hunger was becoming too frequent; and, when the snow came, the problem of life promised to take on an aspect of desperation. Already the frost had begun to whiten nightly about the rushes, and the nights themselves were so bitter that even burrowing deep into beds of pine needles did not keep out the cold. It was at this time that the pig wandering far afield in his rounds, came in contact once more with civilization, and the occasion spelt for him a great adventure.

To be continued.

Breeders' Gossip

Wool producers have been getting as high as 55 cents in Ontario for unwashed wool.

The American Shorthorn Breeders' Association have invested $10,000 in Liberty Bonds.

Indiana had a Rooster Show week in June. The movement was to save a loss of summer eggs by the removal of males from the flocks.

Automobiles are getting almost as common on Canadian farms as top buggies were 20 years ago.

James Douglas of Caledonia, Ont., has imported some Border Leicester sheep from noted flocks in Scotland.

A record price for a Guernsey bull was made by Longwater farms, U.S.A., recently when a California man paid $7,000.

Lynnore Stock Farm, Brantford, has the distinction of bringing over some of the large black pigs from England. These are very popular in England.

The American Shorthorn Breeders' Association will hold a Shorthorn Congress at Chicago during the week of the International. It will take the nature of a show and sale,

A. C. Hardy, of Brockville, was a consignor to the big Holstein sale at Worcester, Mass., recently. His quota of 5 herd brought $17,-425. A yearling bull of his was sold for $9,000.

The B. C. Dairymen's Convention assembled at Kelowna in the Okanagan Valley on June 22 and 23. The Minister of Agriculture, Hon. John Oliver, as well as many official were present, a tour of the district was made.

The important part which the dairy industry plays in the Nation's welfare, will be demonstrated more forcefully than ever before at the Eighth Annual Dairy Cattle Congress to be held October 1st to 7th inclusive at Waterloo, Iowa.

"Better than usual" is the slogan of the Toronto Fat Stock Show, who announce their Eighth Annual Exhibition in this issue, to be held at the Union Stock Yards on December 7th and 8th, next.

The Maple Leaf Condensed Milk Co. of Chesterville, Dundas Co., Ont., sends out each week pay checks for milk amounting to $2,250. This means 100,000 lbs. of milk as the farmers get $2.25 per cwt.

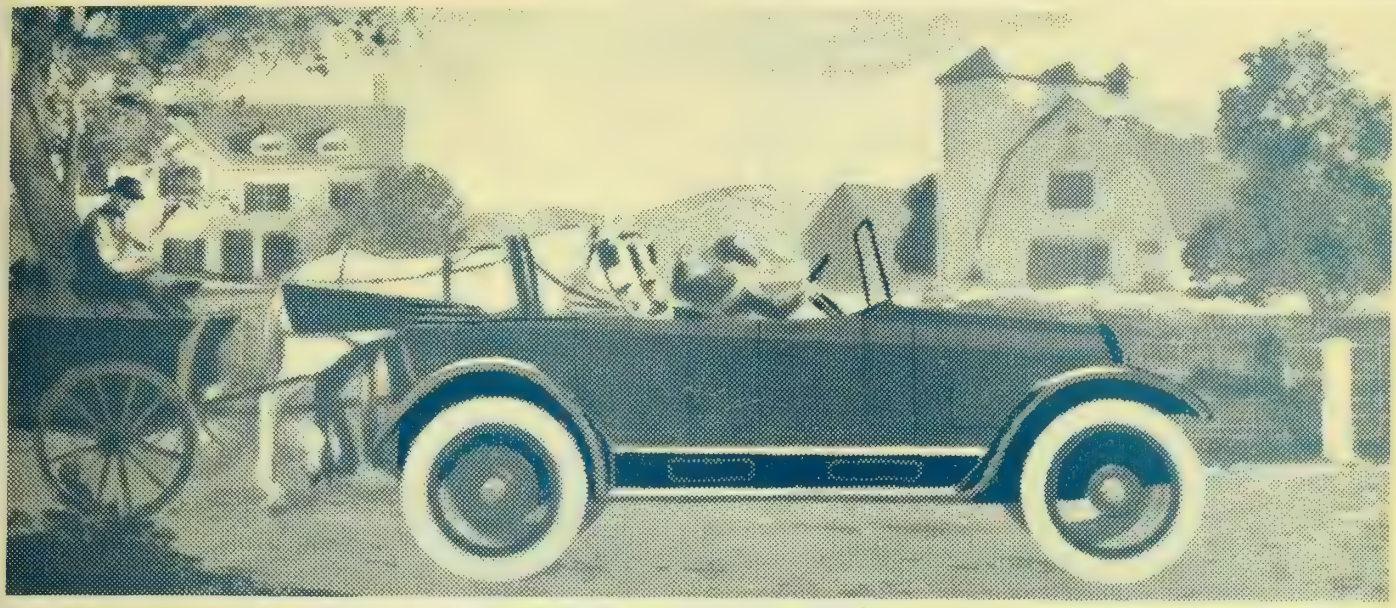
A tractor demonstration will be held at the Kemptville agricultural school on July 13th. The Conference of District Representatives meeting in Ottawa from July 10-13 will motor down to the demonstration.

R. W. E. Burnaby of York Co., Ontario, was chairman of the special Holstein club picnic at Bond Lake in June. He is a pusher for the local breeders and some performances of the county cows justify his faith.

William Hunter of Grimsby, Ont., had been engaged by many prominent Canadian Ayrshire breeders to quote to Great Britain and along with A. W. Montgomerie of Ochiltree Ayrshire to purchase valuable stock cattle for America. They already have the cattle here and many choice pedigrees and unusual record-making cows are thus added to American herds.

The York County Holstein Breeders' Club uniting with the local United Farmers of Ontario lodges held a picnic at Bond Lake on Yonge St. in June. A cow judging contest with Prof. H. H. Dean in charge. Speeches by R. W. Burnaby, C. W. Gurney, President of the U. F. Co-operative Co., R. H. Holbert, President of the U. F. O., athletic games made an enjoyable affair.

Five of Ontario's foremost Holstein breeders held an auction sale on the fair grounds at Oakville, 22 miles west of Toronto on June 20. Some 35 head were sold for a total of $6,465. The contributors were Messrs. Gordon S. Gooderham, of Oakville; J. Alex. Wallace of Simcoe; Robt. M. Holtby of Port Perry; Anthony Gies of Waterloo, and Major E. F. Osler of Bronte. The highest price was $485 for the 7 months bull Lakeview Colantha Sir Wayne owned by Major Osler. The buyer was Anthony Gies of Waterloo. The 18 mature cows averaged $210. Col.



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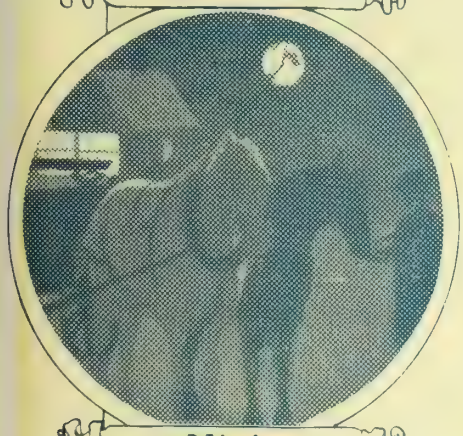

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THE FARMER'S MAGAZINE

THE MACLEAN PUBLISHING COMPANY, LIMITED, MONTREAL, TORONTO, WINNIPEG

Volume X. TORONTO, AUGUST, 1917. Number 10.

Have You Offered Your Farm For Sale?

Then you appreciate, indeed, the value in dollars and cents of a pure water supply. It increases the value of your property. The wise buyer will pay for pure water every time.

AND THE BUYER'S IDEA is sound—absolutely. Impure water is a constant menace to health. Typhoid contaminated water alone is more dangerous than a machine gun—it is as deadly and it gives no warning.

THE IMPORTANCE OF PURE WATER cannot be over-estimated. It is more necessary to health, strength and physical development of man and beast than is food. An investment in pure water is invariably profitable for the individual while it is a national service of high order—it conserves the health and strength of the nation's man-power and livestock.

NOR NEED THE INVESTMENT be heavy. Only a little care, labor and expense, usually, are required to ensure pure water. In the early fall when water is low is a most convenient time to do the work.

WHY WATER IS CONTAMINATED

SOURCE OF SUPPLY. The surface soil contains impurities and these contaminate surface water. When filtered through ten feet of soil, however, the water is purified. Wells, therefore, should be at least ten feet deep and should be protected to this depth to prevent the entrance of surface water.

LOCATION OF WELL. Wells frequently have been dug in the barnyard, in direct line of seepage from manure pile or privy, or in a low spot where surface water collects. Water from such wells is likely to be impure. If, to avoid these sources of contamination, the well is located at some distance from the buildings, the pump may be placed conveniently in the house or barn and connected with the well by an underground pipe. But the highest point in the pipe must be not more than 25 feet above the water level in the well.

QUESTIONS FOR EACH TO ASK

Is my well located on ground lower than that surrounding it; after a heavy rain is the water discolored? If it is, surface water is entering the well without being properly filtered.

Do I occasionally pump the remains of insects, earthworms, frogs, mice, etc., from the well? If so the cover or curbing is not tight and the water is impure.

Is the well located in direct line of seepage from privy or barnyard; is the water ever offensive to taste or smell? If it is, grave danger lurks in the well—fevers often are deadly.

TO PURIFY DRINKING WATER

Any who are at all suspicious that the water, either at home or at school, is impure are invited to write Professor D. H. Jones, Bacteriological Department, O. A. College, Guelph. Professor Jones will at once send a sterile bottle with directions for obtaining a sample. Upon receipt of the sample a test will be made free of charge and the analysis will be promptly returned.

Meanwhile guard the health of the family by disinfecting the water used, as follows: Dissolve a level teaspoonful of chloride of lime in a teacupful of water. Dilute this quantity with three cupfuls of water. Then add a teaspoonful of the diluted solution to each two gallons of water and stir thoroughly. The water thus treated will be without taste or odor and will be safe for human consumption.

TO IMPROVE THE OLD WELL

The next step is to remove the cause of pollution. If it is a dug well in a good location tear out the old lining ten feet down and relay with cement backed by at least a foot of puddled clay. Raise the top above the level of the ground and bank with puddled clay to shed water. Then make the cover absolutely tight with cement or a double layer of boards. In case the well is in direct line of seepage from barnyard or privy, however, the only safe method is to change either the location of the well or the source of pollution.

If the drilled or driven well is sunk in the bottom of a dug well exactly the same precautions must be taken.

For practical, timely and detailed information concerning:

The location of underground water, proper location of the well, proper protection of any particular well, relative value and uses of different kinds of pumps, installation of water systems for house or barn, purifying water in or out of well, how to have water tested for impurities, diseases that are caused by impure water, value of pure water in development of livestock.

Or information concerning any other point of practical interest regarding wells, pure water or water equipment, write the Office of the Commissioner of Agriculture, Parliament Buildings, Toronto, Ont.

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THE
FARMER'S MAGAZINE

JOSEPH MCGOEY - - Manager
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The FARMER'S MAGAZINE

Volume X TORONTO, AUGUST, 1917 Number 10

The Dangers Ahead

By JOHN BAYNE MACLEAN

In the August issue of MacLean's Magazine, Col. MacLean, President of the MacLean Publishing Co., submitted the following article that is, by its very nature, of first importance to every Canadian. It is reproduced here in full.—Editor.

JUST as they are about closing the August issue the General Manager and the Managing Editor of MacLean's Magazine have come to me with a request that I write one or perhaps a series of articles on the war and the political situation.

This invitation is something of a triumph for me. It is an indication that the real truth is at last being absorbed by these young men. Several times, since the war began, I have offered to write such a series. I wanted Canadians to know the real facts, that they might see the serious possibilities. I was not encouraged. They said, and they were very sincere, that they could not afford to lose subscribers and make the magazine generally unpopular. As I am the owner of the MacLean's Magazine, all this may sound very funny. It is however, perfectly true. There are no more brilliant men in the Canadian publishing world. They were responsible for the Magazine—its success or failure. I have great respect for their opinion, and I bowed, with regret and misgivings. True, they had experiences to back them up. In October, 1914, I wrote an article for *The Financial Post*, urging greater preparations, the authorization of a 250,000 instead of a 25,000 fighting force. This article said the war would likely last for five or six years, unless the British Navy were defeated before we could wear the enemy down. It indicated an appalling increase in our national debt. It demanded that Canada have a voice in war management and Imperial affairs, etc. They referred to the storm this article raised in the press, at Ottawa and among many subscribers, who looked for a short and merry war with a glorious victory by Christmas. But it was not all discouraging. Many business men believed us and made their plans accordingly. It was for their guidance I wrote.

However, I did not let up in *The Post*, because I knew what I was writing about. We foretold Russian withdrawal, advocated kicking out the Asquith-Churchill-Grey crowd; pleaded for the bringing in of Lloyd-George; for the filling of big jobs with big men, not party hacks. These were of vital importance to financiers and business men; who had such tremendous interests at stake. We printed information and advocated policies that gave much offence to many readers; because they were so contrary to life-long beliefs. But we have been making history so rapidly these times, that our whole course has already been vindicated. Sir Herbert Holt, one of the ablest and sanest financiers in Canada, visited Europe with Sir Robert Borden. He came back and the Montreal *Gazette* printed what he thought of things. He confirmed in every particular what we had been saying. Within the past two months, letters or verbal communications have been received from two Bank Presidents; from a senator who is President of a large Industrial Corporation; from the biggest business man in Canada; from a former Cabinet Minister, who is on the directorate of several important financial institutions; from one of the ablest lawyers in Canada. All came unsolicited. All conveyed appreciation of the information given, and they endorsed the stand taken, in publishing the actual facts; in making common-sense deductions from them, and in advocating unconventional policies as an absolute necessity of the hour.

I think the General Manager and Managing Editor had been reading my talks to financiers and big business men, and had become convinced themselves. But they are not fully converted. It outlined to them some things I might tell—some facts that ought to be known but are not essential at the moment. They demurred. They doubted. Our readers would not believe. In fact they did not themselves. However, some of these facts I am embodying in the article which follows; the rest I may tell later.

In the meantime I want to make it clear that there is no political motive in what I write, or in what I have been writing in *The Financial Post*. The General Manager is a Conservative and I would perhaps be described as a Tory myself —Hon. Mr. Lemieux, the Liberal ex-P.M.G., speaking in the House of Commons on June 19 last, said I was "a good Tory, a financial authority, but with a conscience"—while on the other hand I believe the Managing Editor is a Liberal, with a tendency toward radical views. The one object in presenting this material in MacLean's Magazine is to let the general public know facts about the seriousness of the war situation, which the metropolitan daily newspapers do not know, or do not give. Let me emphasize that point. The newspapers endeavor to give an optimistic view on everything that occurs and the public, believing them, is blinded to the menace that faces us.

The facts I have had in mind to tell would shatter some reputations and throw interesting sidelights on international jealousies, plottings and the criminal incompetence of our Imperial Statesmen. Some well-informed men in England go further and assert openly that men occupying, or indirectly associated with high official positions, have been, and still are, under German control, having placed themselves in compromising situations. These can be left until another time. They will make mighty interesting reading.

Developments of the past three years have taught some of us two important lessons. One that we inherit or accept as beyond discussion, many more things than our religion and our politics. The other, a realization that the world is governed with very little wisdom.

When we add to this the fact that the British Censorship has forbidden the publication of the real story of events; suppressed the frightful blunders of incompetence; bluffed the public into the impression that things were going well, when Cabinet Ministers knew they were going very badly, it is easy to understand why the great majority of the people of Canada fail to grasp the seriousness of the situation at the present time.

I came up against these things very hard the week war began—or rather I should say the week war was declared—for Britain and Germany were facing each other the week before; but that is another story which may not be told just yet. Per-

Continued on page 10.

The Making of a Red Ribbon Horse

The Showman and the Showhorse, These Two Are Inseparable in Showring Successes—and Failures

By P. E. LIGHT

THE timothy-clover-railed-in-half-acre and the leathery-smelling-tan-bark-enclosure hold an interesting hand count of pitfalls and snags, for the amateur showman. Mayhap a few even for the veteran. Horses, like the fairer sex, constitute a never ending source of study—and are just as capable of fooling man as are the latter, and, pay particular attention to this point, the showman after robs his horse of a place higher up, because, of his own bad show ring manners. For these reasons, the aspirant for showring honors who thinks that tri-colored ribbons, and gold medals are the reward for properly digested hay and oats and a pedigree of a rod or so in length, is in first-class condition to be three places moved from being even "highly recommended." So what is herein written regarding the show horse will prove that red ribbons and blue are not the reward for science in feeding, housing and training alone, but for the combination of these three plus the ethics of the game. Ethics as understood here, are those things that you take into the ring beside yourself and the horse. For example, your personality and your observance of showing etiquette.

THE PRODUCT OF ENVIRONMENT

Horses like children, are more or less the product of their environment. For which reason the bone-head horse would be justified in surveying his stable boss and saying "you made me what I am to-day I hope you're satisfied." Truly, "evil communications corrupt good manners," and it is a safe rule to add to your size-up of a horse's chances in the showring, the measure of his trainer's brains, experience and "horse sense." Lack of the latter, which means lack of sympathy and understanding, has been the cause of as many failures as has the lack of a worthy animal at the end of the lead line. The horse is very susceptible to bad, good and too-good treatment, hence the grand opportunity for toe stubbing.

THE PROPER COMBINATION

The showman and the show horse—these two are an inseparable combination in showring successes—and failures. If I were given two distinct combinations of man and horse, i.e., a model of the equine tribe with an indifferent calibre of show man, on the one hand, and a horse not exactly breed perfect, but handled by a bred-in-the-purple show man on the other hand, I should be faced with an apparently hard problem. You will not, perhaps, agree with my choice of the two combinations, but not being any wiser than the width of my experience, which has convinced me that the man should hold the balance of brain power possessed between horse and man, and that the horse should not possess all the brains, I would not hesitate to stake my bet on the second combination. The horse and the man are one, at and before exhibition day, and one is the necessary complement of the other. Many a good prospect has been delegated to a measly yellow ribbon on account of

Close moving is one of the desirable points in the horse's travel.

being associated with a poor exhibitor. On the other hand, many an ordinary prospect has topped the line up over great odds because of its happy ownership of a first-class attendant. This may be the reason why the judge sometimes hands the tri-colored ribbon to the man on the line, instead of pinning it on the horse. Two ribbons should be in order.

The "real article" in showmen is a big man in his business—and his business is right in the main wagon. He must have the power of looking ahead to the future, in a far greater degree even than had the gentleman in that old standard poem "Locksley Hall."

GOOD JUDGMENT NECESSARY

The man needs judgment; far-seeing judgment and unerring. Especially is this necessary in the choice of a horse or colt that in some future time, with good care and training, will be fit to stand in line in the arena, and take unto itself a ribbon—whatever the color. Such discernment is the primary requisite, and it forms the foundation on which to build the idea you have in mind, concerning the moulding and shaping of your choice into a ring contestant. In many this judgment is natural. Others acquire it through the medium of a wide and thorough experience. We bank on the latter qualifications, plus brains.

Some men are first in their class at picking the winner from a lineup of mature and finished horse, but they are not hall marked goods, nor are they in the same class with the men who will look over a bunch of ungainly, green, thin-ribbed horses and pick out perhaps the most awkward of the congregation, and then alchemize him or her, through feeding and training, into a prize winner. One class of these men are horsemen, the others are art-students. The one sees the animal inside and outside, spirit, body and character; the other see the outside only; sometimes a little more. One looks upon the finished product, the other upon a piece of goods in the making, possessed of perhaps wonderful possibilities.

THE MAKING OF A HORSE

Given, then, a piece of horse flesh, a real horse in the making, what are you going to do about it? Well, you have the material, now cut your cloth: figuratively speaking. In the first instance, you have a problem in production. The production of muscle, flesh of the best quality. You provide the proper feed, but it's up to the horse to use it to the best advantage. That it may do so, it is necessary that the horse be in good health. Perfect health is absolutely necessary. If your annimal in-

The western shows begin in July. This is a scene at the Lloydminister Fair.

dicates a prosperous state of health, commence a generous but well-judged system of feeding, that may be gradually increased, as the horse's inner mechanism responds to the treatment. If, however, the horse be stark in the coat, meek in the eyes, puffed in the legs, disordered in the bowels, all manifesting a poor state of health, he must assuredly be corrected before he can ever expect to make a bid for showring honors. A horse in poor condition will fare ill under a forced diet. It is therefore a matter of paramount importance that all organic ills be primarily corrected. To this end it may be necessary to give such tonics as raw linseed oil, or perhaps aloes, to be succeeded with an iron tonic. These, too, must be very carefully handled and constant and critical watching of the subject, day by day, is the only road to success.

NO TWO ANIMALS ALIKE

The problem of pushing the horse along is complicated and scientific, simply because there are no two horses alike in disposition, anatomy, capacity or needs. Therefore it would be folly to prescribe specific treatment in the way of feeding, etc., that would solve the problem for all. In some cases only oats and bran form the diet, in conjunction with timothy hay and a touch of molasses. Other successful showmen seem to obtain better results by the use of mashes of boiled oats mixed with bran and chopped hay, together with a half pint of steeped flax seed, at each feed. The latter is likely to give the quickest results, but care must be taken not to bring about disorders of the digestive system. Perhaps if this special feeding is limited to once each day, it would better serve. For the average draft horse, four quarts of clean, sound oats and the same quality of bran fed twice daily is about the limit. To this a mash free from sloppiness added each evening will make up about a proper ration. Of course, horses vary as to capacity for feed and should your animal show indications of being able to take care of more than you are supplying, let him have more. It all depends on the animal as to how much to feed, but it depends on you not to overfeed him. Overfeeding is extremely dangerous. Overfatness disqualifies the horse.

Good health and good thrift depend much on the cleanliness of the horse and his quarters. Thorough grooming daily, legs and feet receiving the utmost attention, are first necessities. Exercise well. At least six miles of easy travel daily, to keep him in abounding health, spirits and appetite, is about the size of it. It will help him to put on more flesh, smooth and free from lumps. In this walking is wrapt up much of the horse's ability to show himself well in his travel in the showring. Look well to it. Accustom him to walk straight to and from any one place. Walk him slow at first and then increase his gait so that he does not get into the habit of "lazing" along so as to indicate a lack of spirit. Neither too fast or too slow should be the aim. Don't let him lose his active, wide awake style of walking by making him take a "funeral hearse" gait. When he is on the trot start him slowly until he gets into his stride, then increase his travel, but never let him get beyond the proper control of his limbs and mind.

I wonder, in passing, how many real first-class travellers have been made to blunder and stumble around the ring, solely because of poor shoeing? Their name is legion! Most of the ills of a horse's natural travel may be fairly easily corrected. For example, where a horse shows a desire to "paddle" or throw out the front feet wide, as is the tendency in a horse built wide, it is necessary to use light shoes with scant heels, as a heavy built shoe, big in the heel, only tends to increase paddling. Close moving is one of the desirable points in the horse's travel. To obtain it the rear feet should be shod and fitted to point slightly outwards, so that the hocks are brought reasonably close together when the animal is on the move. Straight travelling shows a horse that is capable of getting the most out of his motive power, and one who will wear well.

THE FALL DOWN

Travelling around the country attending the exhibitions has shown me that many of the exhibitors "fall down" not because their horse hasn't the goods, but because his showman hasn't produced them in the proper manner for the judge to appreciate. Lack of grooming, "stark in the hair," sleepiness, shiftless travel, these are some of the visible signs of poor care so noticeable in many show rings. Get rid of them. Don't be afraid to work on the horse and give him extra attention as the show date draws near. Have his feet cleaned out, trimmed, correctly shod; his feathering well combed out, if he has any; his coat shiny and dust free. Then your horse will feel proud of himself, will possess that conceit which is the forerunner of victory. He will be bright in the eye, active, observant, full of vitality, exhaling good spirits and be indicative of steel and snap, and above all he will appear in "bloom." Wonderful thing is bloom in the horse!

If you have him obedient he will come to attention like a Canadian soldier, will respond quickly to your demand and otherwise conduct himself as a horse with brains. Oh, the mental paralysis to see a man leading a horse with all the brains in the horse's hide and none in the man's. Teach him to see no one else in the ring but you. He'll do it under fair treatment.

Don't put too many frills on the horse. Don't make him look like a circus parade,

Continued from page 53.

THE HEAVY HORSE SCORE CARD

The following scale of points and standard of excellence for the draft horse is given by Gay in Productive Horse Husbondry:

General appearance—16 counts.

1. Weight.
2. Height.
3. Form—Low station, wide, deep, compact massive.. 4
4. Substance—Bone ample, joints broad. 4
5. Quality—Bone dense and clean, tendons and joints sharply defined, leg broad and flat. hide and hair fine, refinement of head, finish 4
6. Temperament — Energetic, disposition good intelligent 4

Head and Neck—7.

7. Head—Size and dimensions, in proportion, clear cut features, straight line force wide angle in lower jaw 1
8. Muzzle—Broad, nostrils large but not dilated, lips thin, even trim.. 1
9. Eyes—Prominent orbit; large, full, bright, clear; lid thin, even curvature 1
10. Forehead—Broad, full 1
11. Ears—Medium size, fine, pointed, set close, carried alert 1
12. Neck—Long, muscular but not thick, well crested, throttle well cut out, head well set on 2

Forehand—24.

13. Shoulders — long, sloping, smooth muscular 2
14. Arm—Short, muscular, elbow in .. 2
15. Forearm—Wide, muscular 2
16. Knees—Straight, wide, deep, strongly supported 2
17. Canons—Short, broad, flat, tendons sharply defined, set well back 2
18. Fetlocks—Wide, tendons well back straight, well supported 2
19. Pasterus—Long, oblique (45 degrees) smooth, strong 2
20. Feet—Large, round, uniform, straight, slope of wall parallel to slope of pastein, sole concave, bare strong, frogs large, and elastic; heels, wide, full, one-third height of toe; horn dense, smooth, dark color 6
21. Legs—Direction viewed from in front, a perpendicular line dropped from the point of the shoulder should divide the leg and foot into two lateral halves, viewed from the side, a perpendicular line dropped from the tuberosity of the scapula should pass through the centre of the elbow-joint, and meet the ground at the centre of the foot 4

Body II.

22. Withers—Well defined, muscular.. 2
23. Chest—Wide deep 2
24. Ribs—Well sprung, long, close 2
25. Back—Short, straight, strong, broad. 2
26. Loin—Short, broad, strongly coupled. 2
27. Flank—Deep, full, long, low under line 1

Hind-quarters—32.

28. Hips—Wide, level-muscular 2
29. Croup—Long, level, muscular 2
30. Tail—Attached high, well carried .. 1
31. Thighs—Deep, muscular 2
32. Stiples—Broad, thick, muscular .. 2
33. Goskins—Wide muscular 2
34. Hocks—Straight, wide, point prominent deep, clear cut, smooth well supported 6
35. Canons—Short, broad, flat, tendons sharply defined, set well back. 2
36. Fetlocks—Wide, tendons well set back, straight, well supported .. 2
37. Pasterus—Long, oblique (50 degrees) smooth, strong 3
38. Feet—Large, round (slightly less than in front), uniform, straight, slope of wall parallel to slope of pastern, sole concave, bars strong, frog large, elastic; heels wide, full, one-third height of toe; horn dense, smooth dark color 4
39. Legs—Direction viewed from the rear, a perpendicular line dropped from the point of the buttock should divide the leg and foot into lateral halves; viewed from the side, this same line should touch the point of the back and meet the ground some little distance back of the heel. A perpendicular line dropped from the hip-joint, should meet the ground near the centre of the foot 4

Way of going—10.

40. Walk—Straight, strong, active .. 6
41. Trot—Powerful, free, moderate action 4

Total 100

Why Fix Prices?

A Farmer Sees Things in a Different Light—Ultimate Results May Disappoint.

By Stephen T. Young.

THE Board of Grain Supervisors for Canada have fixed the maximum price for wheat on August 1st and after shall be $2.40 No. 1 Northern in store, Fort William.

This is the first edict on price regulation in Canada. Food Controller Hanna says he will not fail to use his authority to curb prices, should it be necessary.

Regarding the experiences of price fixing in Europe, Senator Gore, of the U.S., says:

The Food Minister of Great Britain issued an order fixing the price of dairy products. The dairymen were not satisfied with the price; they butchered their milch cows. There was a distinct national, social, and economic loss that could not be repaired within two or three years. Great Britain issued an order instituting a three-course dinner. They kept account of the results, and it was found that the increased consumption of meat and bread under the three-course dinner order more than offset the economy. The people cut out the side dishes and limited themselves to the more substantial foods. That order was revoked. Great Britain instituted one meatless day a week. They kept account of the results, and it was found that the increased consumption of bread on the meatless day more than offset the diminished consumption of meat. They revoked that order.

Germany fixed a price of 8 cents a quart on milk. The dairymen found that they could feed the milk to their pigs and receive a higher price for milk in the form of pork than by selling the milk outright. Germany fixed a price on wheat, rye, barley, and oats, based on their relative value for human food. It so happens that the relative value of those four cereals for human food does not correspond with their relative value as stock feed. The result was that the farmers fed their wheat and their rye to the live stock and sold the oats and the barley. Those efforts were made by the government which has attained the highest degree of efficiency of any government in all the times of time.

The Swiss Government determined what would be a reasonable price of meats sold in the butcher shops. They called the butchers together to ascertain what would be their view of the price proposed to be fixed. The butchers, in a patriotic spirit, answered, "Of course, if the government fixes those prices on meats, we will sell at the prices fixed by the government—if we sell," but they declared that they would not undertake to carry on their business at those prices.

The fixing of minimum prices for farm products would be the safest way to interfere with the laws of supply and demand. This interference, when it begins, logically cannot be traced to its conclusion in practical politics. It must of necessity bear heaviest on one class. Who is that class?

The farmer naturally fears, since he is the first man in production, that he will receive the impact sooner or later, and undoubtedly he will. But the rebound on the farmer means a cessation of food. It is, indeed, a vicious circle. And this ought to inspire our people in authority to put the screws where they should be—that is, upon speculations, cornering of supplies, unjust restrictions, excessive profits and parasitism. Encouragement is the only way to get greater production. Give the farmer a square deal, by interfering as little as possible with vexatious regulations. It won't pay. The farmers of Canada, collectively and individually, have better judgment in what they shall grow than any set of men can tell them. Maximum price-fixing is one form of punishment. It will assuredly react.

Conserve Food

Eat Less Wheat in Order to Allow More Millions to go to Armies.

CANADA Conserving Food! The appointment of a Dominion Food Controller! Why is it that a producing country with wide stretches of wheat lands with broad acres of mixed crops, and with trees and vines and vegetables without limit, should be submitting to the dictates of a man in saying how we shall eat or save!

Assuredly, we do not need for our own sakes, to practice that thrift or to consider the waste of the garbage can! The reason for it is explained by Hon. W. J. Hanna, the Food Controller.

"Why should free America, Canada and the United States," says he, "appoint food controllers like the old countries? It is for the same reason that they are appointed in the countries of the Allies in Europe. It is to see that Great Britain, France and their Allies shall not go hungry at the front, or fail to push forward for lack of supplies."

"Acute? Yes, the situation is one that demands the energies of every one of us. To feed Great Britain and France and the Allies requires 1105 millions of bushels of wheat during the year. They have 645 millions in Europe for this purpose, the balance, 460 millions, must come from America, since the wheat crops of the Agentine, Australia and India cannot enter into the calculations because of their remoteness from the field of war. And of this 460 millions only 300 millions is normally possible. The other 160 millions must come from our savings, from our denial of our own needs. And it can be done if we will.

"If we cut down our wheat consumption by one-sixth, the amount can be freed for shipment overseas. And it is to this end that I define my duties. The duties primarily of a Food Controller in Canada are to see that the boys at the front have enough to eat.

"The answer to the question, why we cannot depend on India and Australia is that half the tonnage of the Allies is engaged in war work and the balance is insufficient to spend so long a time in voyages as to these other-side-of-the-world places."

The September Farmers

THE September Farmer's Magazine *is the best yet. It is the regular Autumn Planning number —outlining the future possibilities of the well-run farm.*

Special writers handle the subjects. Many practical farmers speak. The motor car, gasoline engine, farm truck situation and the implement situation by the head of one big firm are features.

Lewis N. Clark, the poultryman who is selling $80 *worth of eggs a day, will tell a story.*

Tractors Coming

An Epoch-marking Invention That is Being Forced Into Farming by the War.

By Eluid Kester.

THE tractor is still at the front in the matter of production. Both in the United States and Canada the demand for gasoline power-driven machinery has been greater than the manufacturers have been able to handle. The educational work that has been done by many adventurous farmers, who bought tractors, and the work of the tractor meets, has helped dispell the fears that farmers had as to their practical and economical operation on the small farms of the East.

It is now believed by most farmers that the small tractor that will do belt power as well, will be an indispensable machine on the business farm of 100 acres in the very near future. The advantages of being able to do farm work at the right time regardless of soil hardness or weather conditions are so great that gasoline power is likely to be as popular in a tractor tank as it is now in the motor car which the farmer is buying as fast as he can.

As to the overhead charges to be placed against tractor power, it is essential to the farmer that first costs be not too high. Secretary of Agriculture Cummings of Nova Scotia, has been to see Henry Ford as to the possibility of getting his tractor on to the Nova Scotia farms this fall. He has come back with the assurance that the light tractor, fitted with belt power, will be sent down there this fall to a demonstration and then placed on the market.

Already England is turning out there tractors and finding no end of use for them in Great Britain. When our big machine men put a low-priced, easily-managed, all-round, general-purpose motor power within reach of our farmers, it is our opinion that they will come after them so fast that there will not be gasoline enough to supply the demand.

It is all the more important that first costs be low because the life of the tractor, according to the U.S. Government reports, is from 3,600 to 11,000 working hours.

In Eastern Canada many farmers now are fully satisfied that tractor power is going to fit in with their farm operations in the future. But they must understand internal combustion engine theories, and ignition systems, to a greater or less degree. Mechanical farming is as easily understood as animal power if one but tries to solve it. With this knowledge and good horse sense the power over circumstances is largely going to get into the hands of the successful business farmer.

The tractor is a big, walloping proposition that is destined to rank in history alongside the harvester, the telephone, the sewing machine and such epoch-marking inventions, says a writer. It is unfortunate that the war has made it necessary to push the tractor into such sudden service before he has hardly gotten out of his cradle. But he's a thoroughbred and sure to come through O.K. and from now on it will hustle us—all of us—to keep up with him.

O.A.C. No. 104 Winter Wheat: By THE EDITOR

A Cross Between Dawson's Golden Chaff and Bulgarian That is Making a Big Bid for Popularity

CANADA has two principal fall sown crops, wheat and rye. And these are by no means general over the country. Chiefly in Southern Alberta and Ontario lie the suitable soil and climatic conditions for these crops. The wheat acreages and yields in Canada during the last few years have been as follows:

Years	Acres Fall Wheat	Bush. Total Yield
1915	1,124,200	32,391,600
1916	1,042,200	20,131,000
1917	750,000 acres estimate	

The average yield of fall wheat for the last ten years has been 23.46 bushels, an increase of over 3 bushels per acre over the preceding decade.

It is anticipated that the acreages prepared this year for fall crops in Canada, will be larger than for some time, owing to the more production campaigns aided by the lure of prospective high prices for wheat during 1918. It is therefore, highly essential that only those acres should be sown where common sense could expect a crop. Soil preparation, condition of the fertility and the physical condition of the fields must be determining factors. Where conditions for wheat are right, wheat should be sown. Where soil conditions are more favorable to rye, rye is the crop to put in.

Let us consider the results obtained from experience and experiment. Old farmers who have grown wheat successfully for years will be able to tell one more real horse sense about the crop than whole volumes of experiment station reports, where these old farmers are not available, we have to fall back on evidence from other sources.

One unfailing field in wheat is the summerfallow on the right kind of land. The gathered moisture and food elements in available form, protect the roots during the winter and a good yield generally results. Up at the Monteith Experimental Farm in New Ontario where snow lies on the ground from about the first of November till the middle of the following April, the grain comes through in fine shape. The counties of Ontario showing the largest acreages in order are Simcoe, Middlesex, Kent, Huron, Lambton, Norfolk, Perth, and Haldimand.

The highest yields per acre are found in Algoma, Dundas, Carleton, Lanark, Renfrew and Rainy River. Strange indeed, but this is largely owing to the smallest of the acreages in these countries and the care that has to be taken with the crop to insure a return. There is little careless sowing in the northerly districts.

The past year has been a hard one on the crop. It is estimated that 25 per cent. of the seeding was a failure. The balance has developed well and will doubtless give an average yield per acre.

Experiments conducted at the Guelph Experimental farm during the last 25 years have been interested in 280 varieties of winter wheat and a large number of selections and crosses. Nearly all varieties are carefully tested for 5 year periods and then the useless one dropped. Fourteen varieties have been growing for 19 years and their history is interesting. The following results are instructive:

Variety	Aver. bush. per acre 19 years	Average weight of straw
Dawson's Golden Chaff	51.1	2.9 tons
Imperial Amber	48.1	3.2 tons
Early Genesee Giant	46.5	3.0 tons
Egyptian Amber	46.4	3.2 tons
Early Red Clawson	46.1	2.8 tons
Rudy	45.0	2.7 tons
Tasmania Red	44.4	2.9 tons
Geneva	43.9	3.0 tons
Tuscan Island	43.3	2.9 tons
Kentucky Giant	43.2	2.8 tons
Turkey Red	43.0	2.7 tons
Treadwell	41.7	2.8 tons
Bulgarian	41.5	2.8 tons
McPherson	41.5	2.6 tons

It will be seen that Dawson's Golden Chaff is the most extensively grown. This variety has stiff straw of medium length, beardless heads with red chaff and white grain weighing slightly over the standard per measured bushel.

Alberta's experience with winter wheat has been a varied one. The greatest crops of winter wheat occurred in 1911 when 182,670 acres were put in and 4,336,750 bushels harvested. The best average yield was in 1915 when the high record of 39.37 bushels was made. The average yield for 10 years in Alberta has been 22.40 bushels. The decrease in the acreage of winter wheat since 1911 has been heavy, as there were only 42,700 acres sown in 1915.

Experiments conducted by the Dominion experimental farm at Lethbridge, Alta., show the following results:

	Variety	No. days maturing	Yield per acre bu.	lbs.	Aver. yield 3 yrs. bu.	lbs.
1.	Dawson's Golden Chaff	336	71	..	37	40
2.	Minnesota No. 529	343	69	..	36	25
3.	Kharkov	340	67	15	33	45
4.	Minnesota No. 561	340	63	45	39	..
5.	Buffum No. 17	340	63	30	36	10
6.	Azima	338	62	30	35	5
7.	Egyptian Amber	339	61	30	31	..
8.	Kansas Red	338	61	..	34	40
9.	Tasmania Red	339	60	45	29	45
10.	Ghirka	337	58	30	33	5

WINTER RYE

The production of rye has been on the increase in recent years. Four varieties of winter rye have been under test at the Guelph Experimental farm. The following average results have been obtained: Mammoth White 58.3 bushels; Washington 55.2 bushels; Common 53.2 bushels and Thousandfold 53 bushels. The Washington had a weak straw. The average yields of rye in Canada, both spring and fall for 10 years is 18.29 bushels.

Winter rye can be put in as late as October and on land not in as good tilth as that required for fall wheat.

DR. C. A. ZAVITZ, of the O. A. C., came from the laboratory, where he was tabulating some very interesting results in seed production from red clovers. "Last fall," said he, "we sent out through the Experimental Union samples of our No. 104 winter wheat, a cross between Dawson's Golden Chaff and Bulgarian. Of course, we have no results yet, but our tests here at the college are proving favorable indeed for this new wheat."

From a chart in an adjoining room, the wheat in stalk and kernel with comparative display of Dawson's Golden Chaff and Bulgarian, the parents, portrayed the advantages and disadvantages of all the three wheats.

The cross, that is, No. 104, surpasses Dawson's Golden Chaff in yield, is stiff in straw, beardless, and is slightly taller, and is nearly equal to the Bulgarian in quality for bread-making. It must be remembered that these two wheats were selected for crossing because Dawson's was the favorite Ontario wheat, a big yielder, while Bulgarian was the best in quality for bread-making. The cross between these two, combines the qualities of both parents in a remarkable degree, and in the matter of hardiness, it surpasses both.

A visit to the growing plots was then made. Mr. Mason, who conducted us through them, said that, like all winter wheat crops this year, their spring appearance gave very little promise of even a fair crop, but the way they had come on was a surprise to everyone. Where there was tree protection at one side, the plots were much better.

These growing plots showed many varieties besides the ones under our special observation. The Dawson's Golden Chaff plot was, as usual, a pretty sight. Bulgarian, for bearded wheat, was also a beauty, but their offspring, No. 104, in every case, was superior. The grain stood about three inches higher than either. There was no sign of weakness in the straw. Uniformity of the plot was distinctly a feature. The chaff is white, thereby presenting a slightly different picture to the eye than the golden hue noticed in a field of Dawson's Golden Chaff, a field of which is, by the way, one of the prettiest grain crops on earth.

O. A. C. No. 104 looks like a winner. If it can increase the Fall wheat yields of Ontario by 3 bushels per acre, it will mean $2,000,000 alone to the wealth of the country, as well as giving us a better bread.

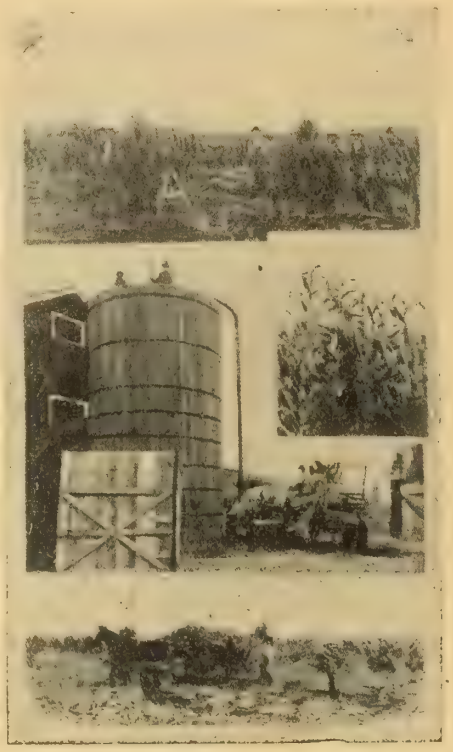
Savings on Silo Filling: By GEORGE H. DACY

A Practical Farmer Gives Some Hints on How He Effects Better Returns

THE wide range of feeding materials which are suitable for use in the silo give the dairy farmer an opportunity to provide a practically balanced roughage ration in the guise of ensilage whose judicious use will exert a marked effect in decreasing the need for purchasing costly concentrates to supply plenty of protein for the cows. Corn is the most widely used and dependable of the ensilage crops. It furnishes a wealth of palatable food per acre which is rich in carbonhydrates and carries also considerable fat. Such leguminous crops as soy beans, cowpeas, vetches, alfalfa and the clovers are rich in protein and are most desirable to combine with corn for the making of medley silage. Unfortunately, as a rule, the clovers do not make good ensilage as they tend to sour and mold when ensiled. Alfalfa is so valuable as a hay crop that it is not widely used in the silo, although it is well adapted for this purpose.

Generally vetches are used for summer ensilage and are valuable for this purpose, although in regions where vetch is seeded in the spring, the crop is excellent to be fed as a late summer soiling crop or to be converted into silage. Ordinarily the best combination ensilage results from the mixture of corn with cowpeas and soy beans. The crops may be grown on the same field or on separate fields when it is necesary to combine the crops at the cutting box when the silo is filled. Many farmers in the States plant beans and peas with their corn, using about one part of beans or pea seed to three parts of corn seed, and either driling or checking the crop. The vining varieties of cowpeas will climb up the corn stalks, while where the mammoth types of soy bean are planted, the forage will attain sufficient size so that it can be readily saved with corn where a corn binder is used for harvesting operations. It is better to grow the cowpeas or soy beans on a separate field, using a binder or a self-rake reaper to harvest the crop the day before silo-filling work begins. In sections that are free from surface stones or rock, the leguminous hay may be cut with a mower and raked with a horse rake. However, it is easier to handle and to feed into the cutting box when it is in bundles.

With excellent success the writer has fed this combination ensilage to dairy cows, beef steers and work horses. The ensilage is keenly relished by the live stock and it is rich enough in protein so that the amount of supplementary cottonseed or ail meal which has to be fed can be materially reduced. Where alfalfa is ensiled with corn in place of the cowpeas or soy beans, as favorable results will obtain. In combining the crops at the cutting box, one part of the legume should be mixed with three or four parts of corn. On fertile land cowpea and soy beans will yield from one and one-half to two tons of hay per acre, while corn will make fifteen to eighteen tons of ensilage. Where the farmer fills a one-hundred ton silo, it usually will take about six acres of corn and fifteen to eighteen acres of cowpeas or soy beans to provide the feed.



The old way of shocking the corn allowed big losses in feed values.

SAVING FROM SPOILING.

Many farmers annually lose considerable ensilage through spoiling. Generally this loss is easily preventable. The silage usually spoils at the bottom of the silo, which has no floor, while the top six to twelve inches of ensilage also is likely to spoil unless it is well protected. Unless the silo is thoroughly tramped and packed during the filling period, air pockets are likely to form which will result in the spoiling of considerable silage. If the edges of the silo are not well-packed and the centre kept filled up, when the feed comes to settle, it is liable to settle toward the centre of the silo, thereby exposing the silage next to the walls to air seepage and leakage.

From two to three feet of straw should be packed in the pit of the floorless silo before filling begins. If it is a wooden silo, the hoops should be tightened as much as posible before filling, while the writer always finds it profitable to clean off the inside walls of the silo and paint it with a heavy mixture of coal tar and creosote. This paint fills up all the cracks and pin holes which are liable to form as the silo ages, while the creosote kills decomposition germs which favor decay in the silo. Furthermore, where this paint is applied a week or so in advance of filling time, it will be thoroughly dry and provide a glossy surface to which the ensilage will not stick.

KEEP TRAMPERS IN THE SILO.

It pays to keep three or four men and boys busy in the silo, which is twelve to fourteen feet in diameter, tramping and packing the ensilage. This is valuable labor, as where the work is properly done the loss in spoiled ensilage will be practically nil. In silos of greater diameter, it pays to increase the working force used in packing the green feed. Where the farmer has but one silo of about 100 tons capacity to fill, it is an excellent plan for him to start the work Saturday afternoon, or rather late Saturday morning so that the ensilage will have a chance to settle over Sunday in order that the filling can be completed Monday.

When the silo is full, the top should be levelled off and allowed to settle for two or three days, when the owner should spend about one hour thoroughly packing the top. Then if the silage still shows signs of further settling, he should let it go a few days longer and then give it another siege of tramping before he plants a thick seeding of oats over the top layer or else covers and packs over it about three feet of coarse hay, weeds or straw. Such precautions, particularly where the oats are planted soon enough, will protect against much loss in the top layers of ensilage. Where the hay or straw are used, generally about three or four inches of silage on top will spoil.

Care should be exercised in feeding the en-

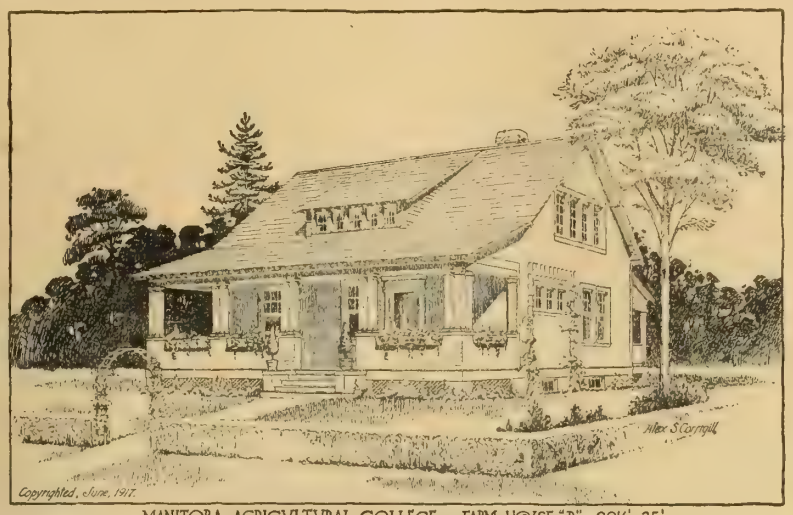
Continued on page 16.

A splendid outlook on the farm of J. H. Logan, Ormstown, Que.

Another M.A.C. Prairie House

SECOND OF THE SERIES OF FARM HOUSE PLANS.

THE accompanying illustrations show a perspective view of the first and second floor plans and the kitchen layout of M.A.C. "Farm House B." The drawing of the exterior gives an excellent idea of the appearance of this house. Of moderate size, 28½ x 35 feet, it has simple lines, and does not appear as if it had been taken from a row of city houses. The wide verandah across the entire front, together with the low walls and broad stretches of roof, will give this house a massive appearance which will be-lie its actual size.

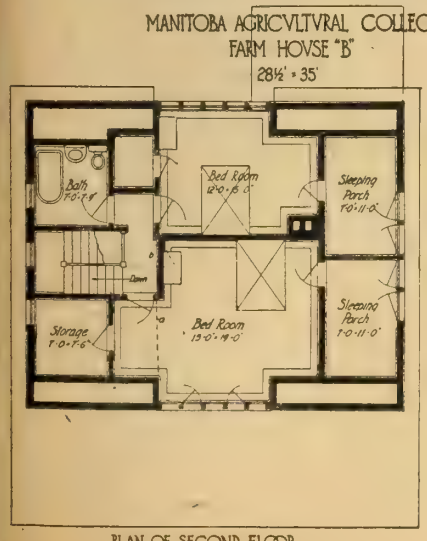


MANITOBA AGRICVLTVRAL COLLEGE. FARM HOVSE "B", 28½'×35'

The screened verandah, 10 ft. by 35 ft., is large enough to serve as an outdoor living room. Opening directly off the verandah is the living room (13ft. x 22 ft. 6 in.) a well-designed room, free from the objectionable multiplicity of doors which so often take up nearly all the wall space. Opposite the outside door is the fireplace, with built-in seats, bookcase and buffet. At either end of the room on the fireplace side are two inside doors, one opening into the pass-pantry, and the other into a small hall off which is a handy closet for wraps.

The pass-pantry, though small, (4 ft x 7 ft.) is convenient, provision being made for a dumb waiter, and a small door communicating with the draining board of the sink overcomes unnecessary carrying of dishes and other utensils from the kitchen to their places in the pantry.

The kitchen, of which an enlarged layout is shown, is well lighted and ventilated by two windows in opposite corners.



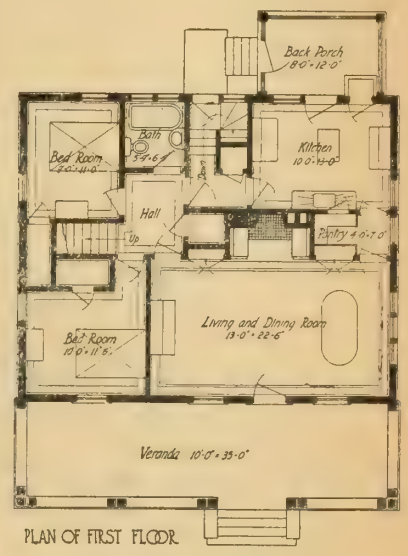
PLAN OF SECOND FLOOR

The range is placed directly in the light of one window, and the sink and draining board are just across the doorway from the other. The woodbox and range-boiler are shown close to the range, but some might prefer their positions reversed in order that the fuel might be replenished from the back porch. Another feature of this kitchen is the built-in refrigerator, which is iced from the outside.

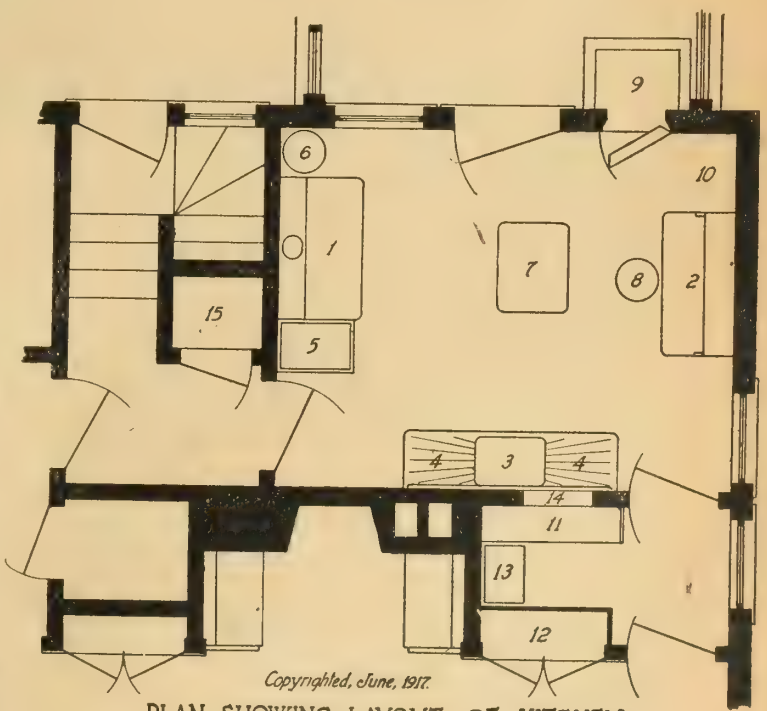
The remainder of the ground floor is given over to two bedrooms, a bathroom and the stairs. The stair to the second storey is between the bedrooms, the space beneath the steps and half landing being utilized for two closets. This is a somewhat novel arrangement, as there is no loss of space above these closets, as is usually the case. The cellar stair is between the kitchen and bathroom opening off the passage from the kitchen to the hall. A grade entrance to these stairs is also provided, making a very convenient cellar stair.

The second storey consists of two large bedrooms, a bathroom, store room under the eaves, and two sleeping porches which are a part of the building and could be used as regular bedroom if desired. They communicate with the two large bedrooms, and would make room for harvest or other temporary help.

Working drawings, showing the front and two side elevations, sectional elevations, exterior and interior details (7 sheets 14" x 24"), together with specifications and a bill of material, can be had by writing the Department of Agricultural Engineering, Manitoba Agricultural College, Winnipeg. This material is sold at a nominal price, with no intention of securing a profit, but to cover the cost of reproduction of individual copies. The cost to applicants residing in Manitoba is $3, and for those residing elsewhere $5. Applicants when sending for this material should allow plenty of time for the getting out of copies of the specifications and bill of material.



PLAN OF FIRST FLOOR



PLAN SHOWING LAYOVT OF KITCHEN

1. Range
2. Cabinet
3. Sink
4. Drain boards
5. Fuel
6. Hot water tank
7. Movable small table
8. Adjustable stool
9. Refrigerator
10. Dinner wagon
11. Shelving
12. Built-in Buffet
13. Dumb waiter
14. Small door
15. Closet with shelves

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AN AGRICULTURAL PAPER FOR ALL FARMERS IN ALL PARTS OF CANADA

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Editorial

WHAT about sweet clover? Does it beat alfalfa?

FOUR or five varieties of potatoes will pay better than a legion of murphies.

A MINIMUM of $2 for wheat assures the farmer against iniquitors speculative tornadoes.

PROF. ZAVITZ of the Ontario Agricultural College finds a striking difference in red clover seed by selection.

IF THE government will make it plain to the farmer that $2 will be a minimum price in 1918, watch the wheat production cure!

LACK of agricultural machinery first of all touches the farmer and then hits the consumer in increased prices and decreased supplies.

EVERY Canadian grown vegetable seed should be sowed this year. They will be dear next year and besides Canadian grown, germinate better.

OATS that have been grown for 130 years on one farm in Prince Edward County, Ontario, are being tested at the O. A. C. this year and they are proving a most attractive plot. This seed did not run out!

THOUSANDS of cattle went out to grass this year at from 10 to 11 cents a pound and any interference with ordinary demand will react on 1918's supply. A faultless distribution is worth more than all food control regulations towards getting production.

WOMEN'S INSTITUTES and Homemakers' Clubs in Canada have done big service this past year. The real voice of our intelligent farm women is generally full of common sense direct from actual practice. May the councils of those women predominate.

THE DANGERS AHEAD

Continued from page 3.

haps the Censor will let me go as far as to say that some one in England was far sighted enough, energetic enough to rush our heavy Artillery Brigade———

* * * * *

[I am leaving out some sentences here as I have no desire to strain the friendly relations that have existed between Major Chambers, the Chief Censor, since the days, a quarter of a century ago, when he generously asked me to pass over his head to the command of his regiment.]

On August 1, 1914, I passed through the German Army as it was moving into Belgium. Two hours later we saw the British Artillery coming up to Liege. They gave the Germans the greatest surprise of the war and undoubtedly saved France and the British from prompt defeat. The staff-officer responsible for this deserves a Dukedom, but his name, whoever he is, has been carefully surpressed. A Cabinet Minister answering an enquiry in the House said the Government had no official knowledge of such an event. To personally claim the credit, the Minister of War had not the effrontery of Winston Churchill, First Lord of the Admiralty, who for many months acknowledged the popular applause for quickly mobilizing the Navy, when as a matter of fact, he was entitled to no credit whatever. It has since transpired that the person responsible was Prince Louis of Battenburg, and he acted to some extent in opposition to Churchill who had gone away the day before to spend a week in the country.

It was my practice for many years to visit the leading centres of Europe and America and spend a couple of months among the financiers and business men that we might more intelligently deal with the bigger business and financial problems as they affected the readers in Canada of our various papers, and particularly *The Financial Post.* In time one forms a large circle of fairly intimate acquaintances, nearly all of them interested in and anxious to know all about the underlying conditions in Canada, as we are to know what is coming in Europe.

In these circumstances, one must be very stupid indeed if he fails to learn and understand—but I must confess I learned many things years ago that I did not understand then.

I did learn many facts in London, Paris, Berlin and Austria and understand them too—too many perhaps for my own comfort. When trying to get to the bottom of things in 1912 I learned that as far as Russia and France were concerned there would be no war before 1915. Colonel Denison warned me just as I was sailing in 1914 that I would not be safe anywhere in Europe, I replied there was no danger for another year. He was right. I landed in Cuxhaven, July 25, and saw the German mine layers moving out, and my position was very unsafe for the next two months.

I was in Berlin when the war began—I learned a great deal My sources of information were of the best—with one exception, our own Embassy. Had I followed their advice I would now, if alive, be a prisoner in Austria, or most assuredly in Germany. A chance friendly call at the U.S. Embassy—the former Minister and many of the attaches of which I had known intimately, warned and saved me. This was not my first lesson of the incompetence of our diplomatic service and the superiority of the American. Years of experience had taught me that as a rule, if I wanted an intellectual treat at a five o'clock tea the British diplomat or Consul has no superior. If I wanted to get out of trouble, or have some business attended to, I have generally gone to the U.S. Embassy or Consulate. Of course, there are some notable exceptions among the British.

My best, and final source of information, was one of the greatest of German bankers—one of the ablest business men on the Continent. I spent nearly an hour with him. He explained things I had not understood until then. He spoke most freely and with perfect frankness, gave me some news, from, and about Canada, that surprised me. He speculated on the progress of the war and its effect on the future of business and finance. He sincerely believed war was forced upon Germany. They hoped for a short, but were prepared for a long, war. Within the next month I added to my general information very full details from three other sources, two of them being intimate acquaintances, a former Turkish Cabinet Minister, a distinguished American Naval officer, very highly thought of in Germany—familiar with German Naval plans and aspirations; and the last a Swedish diplomatic attache who knew and hated Russia and seemed to be unusually well in-

formed on the German-Russian campaign—so well that things happened just as he said they would.

In England, after the first excitement passed over, there was not only a feeling of absolute confidence in an early victory, but a belief that the war was going to be a tremendous source of profit to the nation, particularly as the cry "Business as Usual" had received official endorsement. It became a national motto. Russia was expected to do the trick. Its armies were to be in Berlin in two or at most three months. Asquith confidently announced in November, 1914, that the war would be over sooner than most people expected, and most people expected, less than three months. My Turkish friend, who was also a soldier of fortune, and had taken part in many campaigns, and seemed very familiar with the Russo-German frontier, told me that, under the most favorable circumstances, Russian armies could not make Berlin in six months, and the Asquith government was so informed. My Swedish acquaintance said the Germans were not worrying about Russia. *"All the Russian army commanders were in German pay. They would advance victoriously to certain fixed points, when suddenly and without apparent reason they would retreat."*

In September, 1914, my American Naval friend told me that the gossip in the higher German command was that they would win the war with their submarines and unless the British wakened up, he thought that is what would happen. Early this year he told me that Germany had realized the failure of Zeppelins and was preparing to raid England with sea-planes. He used the word "sea," not "area."

The above is only a brief outline of much of the information I had gathered. Summed up, it meant that Germany was fully prepared, Russia and France were a year late in their plans, Britain indifferent, overconfident and in the hands of two men—Asquith, a brilliant orator, lazy, incompetent, easily led, in the hands of the slick, unscrupulous, conceited, Churchill. Lloyd-George and Northcliffe were two wise voices, crying in a wilderness of ignorance and prejudice. Kitchener had said the war would last three years but, in official circles in London, I was told this was regarded as the usual exaggeration of a military mind. By comparisons and deductions from the information I had, it was impossible for anyone with common sense, and ordinary business experience, to arrive at any other conclusion than that the outlook was very serious; that we could win the war, only if we could stave off defeat long enough to make tremendous preparations. To do this it would be necessary to place our national affairs in the hands of the ablest men in the Empire—war is just a complicated business on a big scale. Therefore the men to handle it are not the orators, like Asquith, Balfour, Grey, but the great executives who have shown a capacity to do things and get things done. Our Imperial and Dominion affairs should be placed in their hands that they might arrange the whole empire into one vast fighting machine. Since the war broke out, week after week, in *The Financial Post* we have presented facts, and suggested and urged remedies. Lloyd-George has done splendidly; but in spite of his efforts he has had to accept in many cases, politicans instead of capable executives. In co-operation with Kitchener, Robertson and Haig he has reorganized the army, until to-day it is the most wonderfully efficient business machine in all the world's history. It is really marvellous. This is no exaggeration. The thoroughness of preparation, the accuracy, resourcefulness and effectiveness in execution, of the general military campaign that has been under way since last December, surpasses anything the greatest and most capable business executive ever dreamed of. Haig has had the great advantage over big business executives in civilian life, in that he was able to enforce perfect discipline. Then he has had splendid enthusiasm in all ranks.

The Navy is equally well manned; is fully capable of doing equally good work; but is still suffering from the disorganization at the top produced by Churchill's incompetence, ignorance and vanity. It failed fearfully in the Dardanelles because Asquith and Churchill ordered it to do things which the higher naval authorities said were inadvisable, impossible and against all experiences. Military experts like Kitchener, Robertson and Haig have been given a free hand to organize and plan campaigns, but naval experts have been constantly subject to political interference which prevented a well defined general plan of campaign. This has given the Germans time to prepare. In the early months of the war we controlled the sea and the Germans the land. To-day the positions are reversed. On water, the initiative rests with the Germans, all because of our incompetent politicians. That we have not been defeated, we have to thank the splendid tactics of the fighting units, not the strategy of the political chief at the admiralty. If the fighting units break, the British Empire is doomed. New enemies will arise. In Canada, we will be attacked on both coasts, Eastern Canada will become a German colony and Canada and the United States will be taxed, for generations to come, to pay the war costs. This is not a sensational story. It is in the realm of practical politics to-day.

If we do not want these things to happen, it is absolutely necessary that we exert ourselves to the limit of our capacity. The outcome may depend upon the last reinforcement of men or cargo of grain, we are able to place in Europe.

Two things we must do. Reorganize our Governments—Imperial and Colonial—filling the important cabinet places with the ablest of our tried executives, regardless of politics. For the present and future of Canada, we must now have the biggest men we can get at the head in our departments of Agriculture, Trade, Labor and Immigration and, in conjunction with these and the other Ministers, the country must be thoroughly organized on the lines now being worked out in the United States. The first step President Wilson took, was to organize the country on a business basis. He called in the big leaders in finance, business, labor, agriculture, transportation. To-day hundreds of these men are giving all their time, free of charge, to public affairs. With some few exceptions, our Imperial affairs are in the hands of the idle rich and professional politicians, who are utterly incompetent to deal with the big problems. Not only that, but a powerful and unfortunate influence has been exerted by a little group of women in London. Appalling loss of lives and money is directly traceable to this state of affairs.

In Canada we still have a cabinet, made up of most charming, high-principled politicians, but most of them utterly unfitted for the positions they fill. Their incompetence has been a drag on progress. It is said that Sir Robert Borden lacks initiative and energy; but no great business or military leader can do things, when he is compelled to leave his most important work in the hands of helpless incompetents. Our political system compels him to accept as his heads of departments some men who are simply orators, wire pullers, petty politicians. They fill business jobs, but they know nothing of practical business. The Premier is not allowed to select the best men in the country, as is the President of the United States.

Sir George Foster is one of the most delightful speakers on the Continent—and long may he live to represent Toronto in the House—but in practical business, he is a child. Yet he is our Minister of Trade. That is, he has to promote the sale of Canadian products. He is the Sales Manager of Canada. As an orator, working for a Lecture Bureau, he could be a brilliant success and command $20,000 a year. As a salesman, he could not develop the sales of a corner candy store or earn $10 a week as a retail salesman.

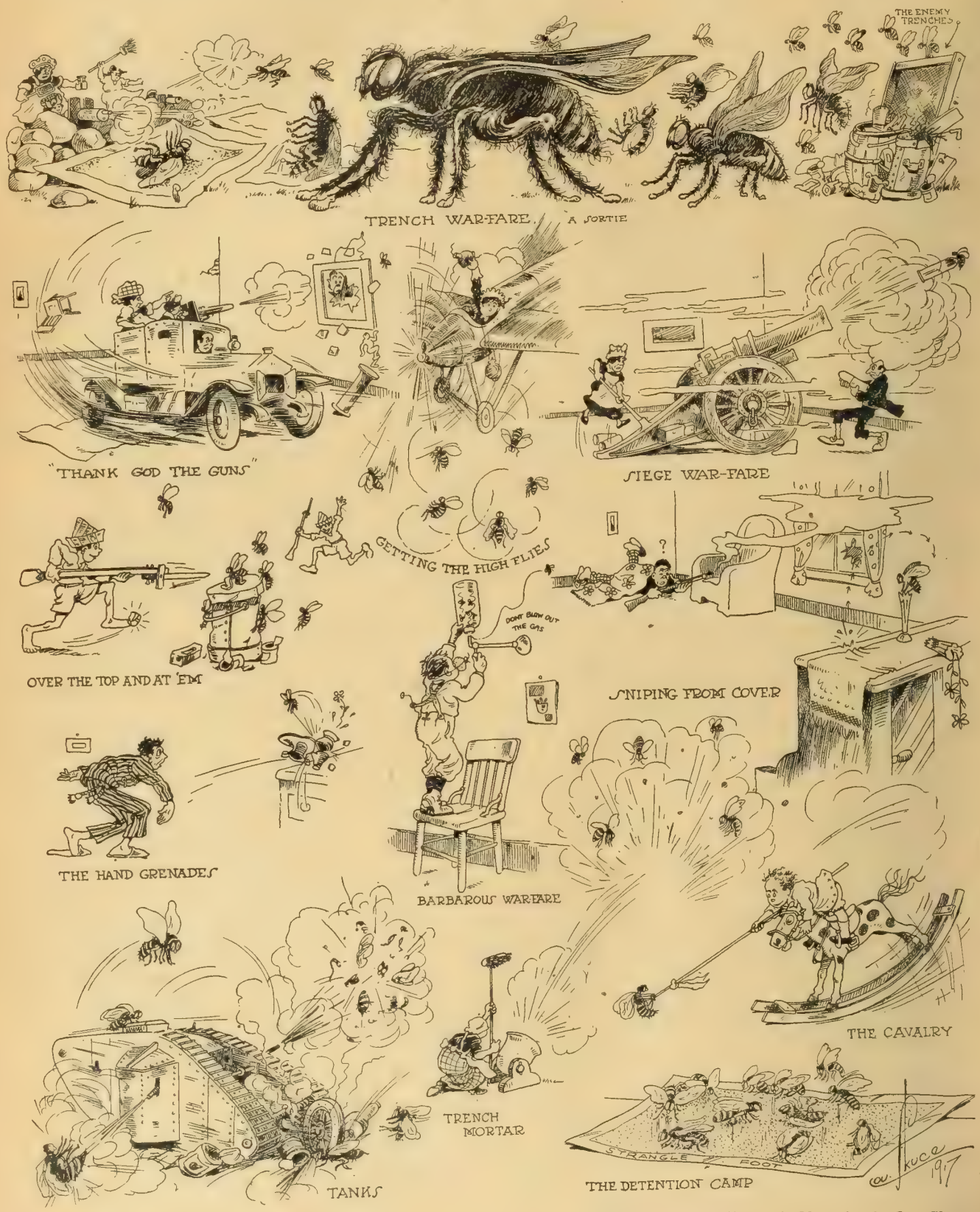
One of the most charming men in Parliament is the Minister of Agriculture. He is a gentleman farmer. An English college-bred man, and a most delightful companion. Increasing our farm production is more important than increasing our army in France—and maintain our army we must. The need of greater production has been dinned into Mr. Burrell's ears for nearly three years. The Prime Minister has impressed him with the necessities of the situation. He conscientiously tried to do his duty, but his training and disposition render him helpless in a great emergency. He is worse, because the country depended upon him, and he has failed. The cry was for wheat, and more wheat, yet the 1917 crop, according to figures recently published, is 1,446,750 acres less, than in 1916. We are told that Mr. Burrell made speeches and issued bulletins to the farmers; and what more could a Cabinet Minister do! *The Financial Post* has been telling him, since the Autumn of 1914, what to do, and how to do it. Let us see what has been done by capable men under similar circumstances. When Lloyd George came into power last December, he found things bad enough, but not as bad, in England, as they are in Canada. Their 1917 crop was 250,000 acres short. Lloyd George had stronger national support, than we are giving Sir Robert Borden, and he kicked out the Burrells of the Imperial Agricultural Department. He put in good executives. By tremendous efforts, such as ploughing at night, they succeeded in making up the loss, and getting an increase of 1,000,000 acres. And this with a shortage of labor. But the new Minister did not stop there, as did Mr. Burrell, when, under the Premier's spur, he increased the 1915 acreage. Mr. Prothero at once made plans for the 1918 crop, which will provide an increase of 3,000,000 acres, which Lloyd George tells us will make Britain self-supporting. Duncan Marshall, Minister of Agriculture for Alberta, says it is quite possible, yet, for us to increase the Western Canada wheat by 5,000,000 acres in 1918.

Viewing these happenings in England from a purely selfish

Continued on page 57.

A GREAT FIGHT

A good old Summer time find each year, a renewal campaign against flies and pests of all kinds, and it is no picnic to the man who is driving a team on a hot dusty day, or to the house-wife trying to prepare dinner for a detachment of hungry men in a hot kitchen. The comical side of the situation is here presented by the artist and every boy and girl will enjoy tracing the analagy.



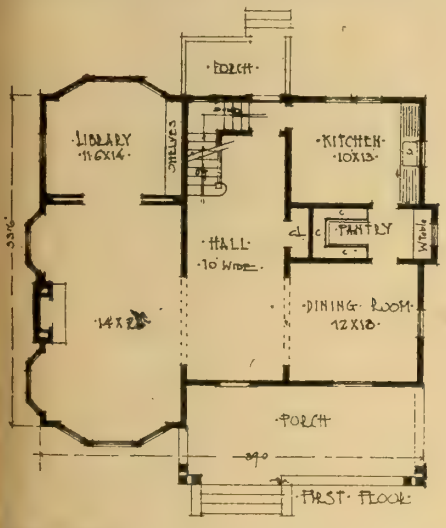
—Drawn for The Farmer's Magazine by Lou Skuce.

A Vancouver House Plan

Where Individuality and Comfort Blend in an Unusual Degree

IN this house plan, a feature has been made of the gables and dormers in a balance treatment. On the first floor, a feature has been made of the bays, on either side of the fireplace, and at the ends of the two rooms thrown together by a wide opening.

The entrance from the porch is into a wide hall, with the stairs set well back so as to give easy access from the rear of the house both to the basement and to the second floor. This house with its



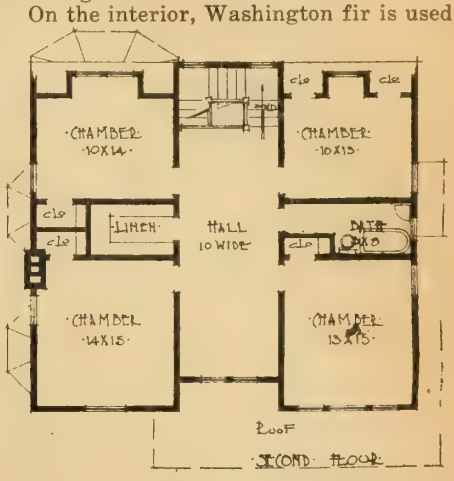
wide hallways will be best suited for people living on the British Columbia coast.

This central hall is 11 feet wide running clear through the house, and depth of 24 feet. To the left is a large living room with a fireplace on the south side. A good sized library is closed off from the living room by sliding doors, and there is no reason why the library as located should not be very quiet and secluded.

The other end of the house is occupied by a dining room in front, kitchen and pantry between. The four corners of the second floor are given to good sized chambers, each provided with closet room.

The foundation wall at the front of the house is brought up to the window sill of the projecting bay, and is used at the same height to enclose the porch. Shingles are used for both stories as well as the gables.

On the interior, Washington fir is used



for the inside finish. This wood is stained, varnished and rubbed dull. Fir flooring is used throughout. A hot air heating plant is installed, and a complete laundry equipment. There is no attic, but a full basement.

"UNTO ONE OF THESE LITTLE ONES"

The above illustration shows the patient in the North York Women's Institute cot in the Queen Mary Hospital. The nurse's story of this little man and the handicaps "wished on him," is eloquent of the value of this splendid line of work. She says: "He was brought in a tiny baby, from the Children's Aid Society in Orillia. He is a queer little chap and one is not surprised to find him so when one considers his parentage. His mother was an Indian woman and his father a colored man.. When he came to us he was so covered with abscesses and vermine that it was difficult to make him comfortable. To make him clean seemed to be the first requirement—after that he rested and enjoyed his nourishment. He seemed to have his little Indian moods, and certainly has his colored tastes. Nothing that is gaudy is safe within his reach. He has his days of being silent and almost sullen when he paces up and down his cot; on other days he looks more like a little darkey and grins at everyone who goes into the Ward. He has not learned much about his anatomy, but having almost always had to depend on charity for his clothes, he seems to know more about them. When asked where his sore place was, he said, for one on his shoulder, 'It's in my shirt.' He is a child who will never lack sympathy."

Getting the Hens at Work

Practical Pointers From Those Who Get Money Results

Poultry Pointers

Grain will be needed this fall and winter for feeding our armies abroad. At the same time poultry and poultry products will be in brisk demand at high prices. Hence the need of making the very best use of all grain fed to poultry and of keeping the poultry in the very thriftiest condition. The earlier the fowl are for turning into coin, the larger the profits, both in labor saved and in feed expended.

It cannot be said too often that poultry will not thrive as they should unless their quarters are dry, clean and free from vermin. Hence, before the cockerels and hens designed for market are set apart for their last fattening, their quarters should be made as clean as hoe and shovel and broom can make them. Roosts and feeding vessels should be removed and scrubbed and scalded. This done, the whole premises should be thoroughly gone over with kerosene or other powerful insecticide till every crack and cranny has been saturated. In a week repeat the disinfecting. Next, cover the dusting boards with dry earth and place four inches of fresh earth on the floor of the pen. Give each bird a thorough dusting with an approved dusting powder and provide for a good circulation of air in the pen without their being a draught. Supply an abundance of grit and then feed plenty of soft feed in which corn had a prominent place. Sufficient food should be given to keep the fowl contented without their wasting.

If grain is fed whole, it is all the better to have it well sprouted. The fowl eat such grain readily and thrive on it surprisingly.—A. Kyle.

Makes $3 Per Hen

Garfield Yerex of East Lake, Prince Edward Co., Ont., claims to have had 382 dozen eggs from 50 hens during the first 6 months of 1917, thus netting him $3 per hen for the period.

Getting Ready for Winter Laying

Pullets hatched in April or early in May should be laying by October or November. To have this brought about, the birds require treatment that keeps them thrifty. Letting them run wild on the average farm as a rule brings more disappointment than dollars. For one thing, the birds will not thrive if they are infested with mites. The birds should be gone over at least every two weeks with good insect powder and their roosts should be saturated every week with coal oil or some other dip. Gravel and oyster shell should be available in the poultry house and an abundance of water should be within easy reach at all times.

As growth and vigor are the essentials at this period, the diet should consist mainly of oats. If the oats are sprouted, all the better. A pail of sour milk will add considerably to the growth of the birds.

If the aim is to have the older hens lay in the early winter, it is good practice to have them stop laying early in August. This is done by penning them and keeping their feed at the minimum for ten days or two weeks. This implies that the pen has been cleaned and disinfected and the hens freed from vermin. Abundance of water should be supplied as well as plenty of grit. Oats should be the staple food, and greens should be added in the way of grass or beets or mangles that have been "thinned" from the garden. After the period of the two weeks is over, the ration should be greatly increased till at the end of the second two weeks the birds are receiving all they can eat of oats and wheat and skimmed milk. Treatment of this sort usually brings on the molt, and when the molt is on the fowl should be given every care, as the more quickly the molt is over, the sooner biddy will turn her attention to the egg basket. Those who undertake this treatment will do well to avoid sudden changes, particularly in the way of increasing feed rations. There is no extreme in the way of cleanliness so far as the poultry is concerned. The only limit is the owner's time. Fowl treated in this way are almost sure to be laying by snowfall. The advantage of having the older hens lay is that while their production may not be quite as high in number, the eggs are larger and bring a high price when one knows where to sell. —J. K.

Jack Miner says the goose is the most intelligent bird. But man has the start of them here.

Cheaper Poultry Feed

On account of the scarcity and high price of feed the poultry industry of this country is threatened by the prospect of the wholesale slaughter of laying stock and a serious falling off in the number of pullets to be matured.

The necessity for retaining for milling every possible bushel of wheat suitable for that purpose need not be emphasized. To provide poultrymen with feed for rearing their young stock without unnecessarily lowering the supplies of milling wheat, the federal Department of Agriculture has requested millers throughout Canada to put on the market the cracked and shrunken wheat removed from grain before it is milled.

In addition to small and broken wheat these cleanings consist chiefly of the seeds of wild buckwheat, a near relative of the cultivated buckwheat. The Poultry Division of the Central Experimental Farm has used wild buckwheat in feeding experiments and reports it to be a highly satisfactory poultry feed and has ordered two cars of buckwheat screenings for the Central and Branch Experimental Farms from the Canadian Government Elevators at Fort William. Fowls used to good grain do not take to it at first but when they become accustomed to it they eat it readily and do well on it.

The mill cleanings from local flour mills also contain traces of many other weed seeds, including several kinds of mustards. These, however, would not as a rule amount to more than two or three per cent. of the cleanings in the case of the standard grades of Western wheat. This material is specially recommended for backyard, suburban and professional poultrymen. On farms the cleanings from yards and poultry houses where it had been fed would have to be disposed of so as not to disseminate noxious weeds in grain fields.

Kill Off Sick Hens

The slick hen, the one that has no broken, rough feathers, looks as though she was ready for exhibition. She is the "lady" of the flock; she would make a fine pie; the others are the layers, the workers. I never try to cure a sick hen—only with a dose of sharp axe. All dumpy hens are killed, unless moulting or setting. I would hate to eat a hen that had been sick, even if it were apparently cured.

—Mrs. L. W.

The Upward Turn

Sad will be the day for every man when he becomes absolutely contented with the life that he is living, with the thoughts that he is thinking, with the deeds that he is doing, when there is not forever beating at the doors of his soul some great desire to do something larger, which he knows that he was meant to do, because he is still in spite of all, the child of God.—*Phillip Brooks.*

If anybody deserves his prices it is the bachelor homesteader, who goes ahead and gets results.

God's Green Country: By ETHEL M. CHAPMAN

A Tale of the Ups and Downs of Country Life

CHAPTER XI.—*Continued.*

BUT he didn't find just how she felt about it—at least she didn't tell him. A few years ago, when he had brought her home, ill, from the inhospitable village inn, Mary Withers had not only taken her into her motherly care and brought her through the dangers of pneumonia; she had studied her with a mother's anxiety for the possible future of her boy. And after several timid efforts she had managed to tell him that she "had always hoped there would sometime be such a girl—a girl who would sort of take his mother's place for a man when she had gone." He had tried to imagine Marjorie Evison in this capacity, but it was impossible; anyway he couldn't see why any man would want such a thing. He was younger, then, and he hadn't been man-handled by the world so much. As for Ruth, herself, the maternal in her was at its height now. His half cynical questioning seemed to mean, "after all is there anything real in life or is it all rotten?" and she felt a quick resentment toward the woman who had inspired this outlook.

He had started out all right. He had stopped his plow in the furrow to watch a bird fly over his head calling for its mate, and "the scheme of things had seemed very simple and perfect." He had expected the laws governing society in other places to be as natural and honest and beautiful as that. Now when he was giving up everything that meant life to a young man he had nothing to leave behind him; the things he had most hoped and lived for were not only incomplete, but distorted in his vision. It would have been the most natural thing in the world for her to go to him and try to explain away the bitterness as his mother might have done, but she remembered having forgotten herself once before, and she was taking no more chances. And to the man facing things ahead with the quiet coolness of a seasoned soldier, it would have seemed like a grateful rest in the last haven before the storm to let himself go for a little while, to put his head down against hers and feel her fingers in his hair again, but he reflected, knowing the prevailing gossip of his affairs a few months past, what kind of a sentimental donkey would she take him for? And he straightened himself accordingly. Yet it seemed that always he would find himself looking back hungrily at the memory of an artless young Diana of a girl with the sun making lights in the crinkles of her shining hair and a true far-seeing kindness in her glowing eyes.

They had transplanted the rose-bush from the front door of the old house and set it climbing against the stone at his mother's grave. Quite likely she knew what he was thinking, but she also knew that nothing more than the accident of a passing loneliness has caused men to make confessions which they would afterwards give worlds to have unsaid, so she broke his reverie with, "I think if we'd water this again we could go home. I'll come and visit it often and keep the grass cut away and let you know how it's getting on."

But while she watched him pressing the earth about the roots, and tying the rambling branches in place, lingering over the last thing he could do to leave something alive, and blooming to color the loneliness of the place, she felt if Mary Withers could know—if she could see him a man, grown beyond her, but living out in his own way the ideals of her life—only then would she know how much worth while it was to have lived. And he was going to the war.

Some few thousand of the same type of Canadian gentlemen, brave, unselfish, unassuming, had gone, and others were going, and most of them weren't leaving any sons to carry on the family traditions. But a woman doesn't see such things in generalities.

CHAPTER XII.

IT WAS very quiet in the neighborhood after the battalion left. In fact, over the whole green country always known as a retreat from the strain and noise and gaiety of the town, there broods now a new quietness that is not restful. Canada is far removed from the areas where every home has been broken, but in the littlest hamlet, or the most secluded community, there is some home with a cloud hanging over, which will not be lifted till the boy comes back. When Ruth's work took her among these people now there was a closer touch with their anxiety; she hadn't known what it meant before.

It was in a Scotch settlement in Eastern Ontario that the real spirit of the war seemed to have entered. She had visited the place during the winter before the war, and the meeting hall had been filled with young people. They were an interesting crowd. The young men hardened from summers of harvesting and winters of lumbering, every one of them standing six feet or over, not all modelled after Adonis, but generally bearing unmistakable marks of good breeding and intelligence in their strong-featured faces. It had long been the ambition of every family to turn out at least one university man, if it ran the farm to the rocks to pay for it, and the others, the elder brothers who stayed at home to fatten the calves that went to buy the books, and the dress suit and sundry incidentals of the college course—they had just as active brains, were just as clear thinkers. The houses were not all painted on the outside, but they had libraries of the choicest things in standard literature, and most of the houses had their bag-pipes or a violin. From the time when the long evenings set in in the fall until the spring floods broke up the roads the young men and the girls would gather regularly in some farm house and dance all night. The Highland fling was as well known here as in any home in the hills of the Old Land, and when the whole floor wound up the night in the Scotch reel, the drone of the pipes and the whoops of the dancers seemed a very harmless and picturesque way of keeping alive the traditions of their warrior ancestors.

But they were indeed sons of the covenanters, and with the first surety of war, every man who could get away at all, wound up his affairs as fast as he could, or left them incomplete, got into kilts if he could find a Highland regiment not filled up, but in any case got into a uniform of some kind, said good-bye to his women folk or his children, a bit roughly and unsteadily at the last, held them painfully close for a minute, then broke away and left them without looking back. The whole settlement had been left like that, and the farming was now being done by the old men and the young boys and the women and girls.

But the girls had come from the same strain of Covenanter ancestors. They were tall, deep-bosomed, motherly young women with a strength of will and character in their faces like their brothers—and it was war-time. Just as their great grandmothers must have gathered in the sheep when their war-fired men followed the bag-pipes over the hills to meet an enemy before their own hearths were dishonored, so their daughters in Canada with the enemy far away, but none the less menacing if no one went to meet him, took up the tools their soldiers had laid down, and went to farming. Many of these girls had never lifted an axe or driven three horses on a binder before, but they were doing it now, and doing it fairly well. Not that this was work that any Canadian girl could do. These girls had unusually good physiques to begin with; perhaps the canny forethought of their race had made them judicious in what they attempted to do, and there were usually more than one of them in the house, so they didn't have to try to crowd a woman's work into the night after doing a man's work in the fields all day. Anyway, it was their avowed intention to keep it up "until the men came back."

In the winter, the girls who in other years had given their evenings entirely to the neighborhood frolics, now sat late beside their lamps at home, knitting. In one community it occurred to them that they could work better together, so they formed a "Next a' Kin Club." Incidentally they sent for Ruth to come and help them get their work better organized.

It was easy to arrange a plan for the most practical kind of Red Cross work. It was not so easy to look squarely at the problems ahead of most of these girls, and offer any solution. But the girls themselves had gone right to the heart of things.

"We've thought it all out," one girl explained to Ruth, a girl with eyes as soft and blue as the heather and a wealth of bronze hair that would have sent an artist raving. She was obviously a girl who in normal times had followed the quick warm workings of her heart rather than to reason out any logical line of conduct. "We've thought it all out, and we want to be ready for whatever happens."

"Andra and I were to have been married in October. At the first word of war

he and my brother Donald, a lad just turned eighteen, left together. Father is old and I'm trying to take Donald's place till he comes back. If he shouldn't come I'll stay anyway and do the best I can. Then when Andra comes he'll work the two places; it would be easy for him—you never *saw* Andra. I'm sure he's coming back—somehow you couldn't think of Andra not coming back. He just wasn't afraid of anything and the things that set other people cowering before them, just naturally made way for him. He always drove the logs over the gorge where every other man in the place thought it was playing with death to go—and when something came loose at a barn-raising and the whole framework seemed ready to come crashing down on the men, he crawled out on a beam with the timbers swaying under him and drove the joint together. Of course they say a man has no chance at all over there; that it's just human life put up against so much machinery, still I can't think Andra won't come back—that just couldn't be," she cried, a terrified protest in her blue eyes. "But he might come back not able to do things like when he went away," she added quietly, "and that's why I want to keep the farm going as well as I can. We could still make a living here, so we could be married even if he couldn't work."

"Oh don't tell me it wouldn't be prudent," she broke out when Ruth tried to speak. You never *saw* Andra. If you'd once known the look and the pride of him in his kilt, if you'd seen him taking the logs from a jam, and the river frothing around him, if you'd known the mind and the will and the kind, true heart of him you'd know that there aren't many men like him left in the world, and you'd know that the greatest mistake would be that he shouldn't get married,—that there wouldn't be any children to grow up like him. So no matter what happens, just so God sends him back to me alive. I'll be waiting."

"That's how most of the girls here feel, but a lot of their lads have been killed. The only hope for them is to have something to do that will make it seem worth while to live. A few of them want to train for nurses thinking that by trying to ease other people's suffering they can forget their own, but they wouldn't all make nurses, and the life will soon go out of the place here if they all go. If you could plan something worth while for girls to do right here at home, and help the others who feel that they must get away, to find their right place when they do go, it would be worth everything."

It happened when the "Next o' kin" club were making shirts and bandages at a farm house one day that a pedler called selling lavender. The people had little use for lavender, but in the warmth of their hospitality they asked the stranger to stay for supper. He was embarrassed by the situation; evidently itinerant selling was new to him, and not congenial. It was also discovered that he was trying painfully to conceal the fact that his right arm hung limp and useless. Then someone noticed that he wore the badge of a discharged soldier, and if Prince Charlie had suddenly appeared in their midst his welcome could not have been more cordial.

He was the first person they had seen who had actually been "there," and the young people, especially, pressed him with questions. Their imaginations had created thrilling pictures of kilted regiments, charging over level fields with the sun flashing on their trappings and somewhere, always, the pipes playing; and those who fell would go down smiling. Was it like that, they begged, and had he seen any of their men.

The soldier considered and decided that they deserved to know the truth.

"You'll be gettin' some of them back one of these days," he said, "and you wouldn't want to be expectin' too much of them for a while. I may not have seen any of your men, but I've seen men of the best picked regiments in the army, men who had been there long enough to be hardened to it if that were possible, and I've seen them loaded on to the stretchers cryin' like children. You see it's all so different, you just don't *get* it here at all.

"There was one chap, a sort of leader and general favorite in our crowd. He had been a champion athlete at college and his face would have made a painting of a young Greek god look like a poor copy. They carried him back to the dressing-station one day and sent home a telegram saying that he was wounded in the face. The little girl from home wrote back that he would be all the more handsome to her with a scar that told of sacrifice and bravery, and the dear knows what else, but she didn't know just what it was. For the rest of his life he'll keep the lower part of his face covered with a black cloth. The question is just how the girl will feel about it after the first shock or the first romantic phase of the incident has passed."

The next day Ruth went into another community. It was a land flowing with milk and honey and humming with automobiles, and except as a live topic of conversation, the war was something apart.

"We've done very well in patriotic work around here," one prosperous citizen explained. "The young people have a patriotic dance every month, and we've raised a lot at entertainments because everyone for miles around has a car and there's sure to be a good turnout if it's for anything patriotic. Then we send donations regularly to the military hospital in the next town; we feel that we owe something to the men there. But the returned soldier is going to be a serious problem. They're going to feel that they've done everything for the country and that the country should take care of them for the rest of their lives. One called here last summer looking for work, but he was all crippled up and couldn't stand anything. A few days ago he went through here again selling perfume or something. Never saw one yet that could stick at anything. You see they've been idle for so long they'll never settle down again to hard steady work."

Of one thing he was sure, however,—the war must be won. "We've sent a lot of men but we'll send more," he declared swelling with pride of his determined patriotism. "We dont' want our children and our children's children to have to live under the terror of a repetition of this. "What did he think of conscription? Conscription would be a fine thing. There were lots of young men who could be spared, but the government must see that men were not drafted from the farms; the farms were already undermanned. Incidentally, though he didn't express it, with this provision conscription wouldn't touch his own son. It was a strange but not uncommon line of human reasoning, and to the girl pure and strong in contrast, a sentence in Billy's last letter kept repeating, "One virtue stands out through the worst of it; however big a piece of blundering the whole thing may be, so far as the men are concerned the spirit of selfishness is entirely absent."

And "there were lots of young men who could be spared," the generous one had declared. She thought of the blue-eyed Scotch girl's Andra, and the young leader and favorite of his mates, who "would have made a Greek god look like a poor copy," and who, for the rest of his life, would keep his face half covered with a black cloth; and she thought of Billy and everything else seemed to end there.

A boy from the village rode up and handed her a telegram, "Private Withers seriously wounded" it said.

(To be concluded.)

SAVINGS ON SILO FILLING

Continued from page 8.

silage to prevent waste. Enough live stock should be kept so that at least two to three inches of ensilage can be fed from the silo each day. Frozen ensilage often kills live stock which feed on it, but if the frozen ensilage is thawed out before being fed in case where it has not turned excessive sour, it makes good feed. Farmers who do not equip their silos with a waterproof roof, make a grave mistake, as the loss and waste in ensilage which results in the case of the roofless silo will more than pay for a good roof in a couple of seasons.

A labor-saving method of expediting the hauling of corn to the cutting box consists of the use of sled-like racks which are built on runners about eight inches off the ground. A rope is tied at the back of the rack and then extended forward along the middle of the frame. There is enough slack rope so that it will reach back over the top of the load of green corn and drag on the ground behind. A post is securely set in the ground near the cutting box. One man stands near this post and as the rack-load of ensilage goes by, he grabs the slack rope trailing behind and hitches it around the post so that as the rope tightens it quickly dumps the load of corn near the cutting box in a favorable position for the feeder to feed it into the machine. With three teams and racks of this character, the average farmer can fill his silo more economically and as quickly as where he used five teams and wagons. This hand method of management saves him the use of four horses and two men.

Ensilage crops should be cut at a time when they are mature enough to make the best silage. Corn should be well-dented and passing out of the milk stage before it is cut. Soy beans, cowpeas and alfalfa should be mature enough to harvest for hay. Washy, unpalatable silage which is liable to spoil and mold, results where the crops to be ensilaged are harvested too early. As the present is a period of feed shortage, it is necesary that every farmer exert all effort to minimize waste and needless loss.

The Farm Calls the Wage Earner

The Farm Boy Thinks That a $1,500 Salary is a Better Thing Than Farming, And Uncle Shows Him Something

By ELMO ANNAN

The opportunities for the young man in agricultural pursuits in Canada were never greater than they are now. There is no other business that will bring so much real satisfaction, and the net money returns can be made to equal and surpass the net returns from 95% of business enterprises.—Editor.

I RECEIVED a letter last night that troubles me. It bears the signature of a young nephew of mine up in Huron county. Here is a paragraph from it:

"Dear Uncle," it begins, "I want to leave the farm. It is your example that has inspired me with a desire to get to the city. I want to do as you have done. I want a position like yours with a long salary and short hours. I find the farm dull and lonesome; and then a fellow can't make anything farming. Of course I won't leave dad till after harvest, but I would like you, in the meantime, to keep an eye open for a job for a likely young chap from the country." And then he goes on to give me the news of the old home district.

Reading between the lines, I see that this nephew of mine has mored his ideas of the city and city life from the shining autos filled with pleasure-seeking people that rush past his father's home. I believe, too, that he made a short visit to the Western Fair at London a few years ago. I remember that he talked much of the big buildings, of the fine shop windows, the well-dressed people, and the wealth that was to be seen on all sides. Being only a boy, he did not go very deeply into things. He did not realize the great effort required to attain even a moderate amount of wealth in the city. Certainly he does not know how little chance he has of ever making more than a bare living.

I have just finished writing to this boy; a New Year's letter, if you please. My letter will give him a surprise. I have told him that I, in spite of my generally supposed prosperity, am going back to the farm. I hadn't intended to let any of the folks know it so soon, but if my example was going to take that young fellow from the farm, I decided that the best way to get him to change his mind was to let him know that I had changed mine.

ENCOURAGED TO LEAVE THE FARM

It is a part of human nature to discount heavily the advantages that we have and put a big premium on the advantages that we have not. This was the mistake I made. As I remember myself, I was just an ordinary bright country boy. I say "bright," because I headed the classes in school and was quick to "put my hand" to anything around the farm. I remember that one of my early accomplishments was a home-made windmill that seemed to the neighbors to indicate unusual genius. People began to tell me that I was never intended for the farm. My youthful ambitions were stirred. Equipped with only a business college education, I went off to the city to compete with others just as bright as myself.

My first years in the city were discouraging ones. Had it not been for my pride I would have gone back many a time. I was just as bright as the majority of those with whom I came in contact, but I had been reared on the farm. Farming was the one thing I could do well. My new associates had been reared in the city. They were acquainted with city life and city ways, and hence had an advantage over me. I persevered, however, and soon things began to get easier for me.

A BIG SALARY

Folks back on the farm think I have been successful. My salary is $1,500 a year. That looks big to them. So it did to me at one time. They make the same mistake as I did. They don't count the extra expense. I pay $30 a month for a small house on a poor street. Likewise I pay for everything that we eat and wear. There are no fresh eggs, garden "sass," cream, milk and butter to be had first hand, minus the middleman's profit. We pay middlemen's profit on everything and by the time you add car fare to the long list of expenses, there is very little left. Then a man who holds a reasonably decent position in the city must keep up an appearance of prosperity if he would hold his job. I have come to see that I will never get very far ahead. When I came to the city I had visions of myself as proprietor or manager of a manufacturing firm or owner of a departmental store. I now know that my salary will be $1,500 a year or thereabouts until old age overtakes me and I become one of the city's cast-off inefficients. Industry in cities has become centralized. It requires more capital than I can ever accumulate to start a business of my own.

I don't appreciate the idea of being an office slave the rest of my life. There is only one alternative. I can go back to the farm. I may have lost some of the sleight-of-hand that enabled me to do farm work well when I was in my early twenties. It will come back to me. The little capital that my wife and I have saved by scrupulously counting every cent that went out, will start us on a small place. We will be satisfied with moderate returns and independence. I will know that as my hair greys that no one can put me out of a job and that no one can step in and take my place so long as I own a little bit of land of my own.

All things are not so rosy in the city as many country boys, such as my young nephew, seem to believe. I was sitting in the barber's chair having a haircut the other day. If I am not greatly mistaken that same barber has cut my hair every two weeks for the past 10 years. He gets practically the same pay to-day as he did 10 years ago. I told him that I was going back to the farm. He, too, was dreaming of a farm, although I never knew it till I mentioned my plans to him. He, however, has never had any experience in farming. He may not know a hoe from a pitchfork. He feels, however, that he would be independent. Probably his dream will never materialize. It will be better for him if it does not. Without any experience in country life, he would be a more miserable failure on the farm than he has been in the city. I fear that he, like thousands of others, will remain a wage slave to the end.

The same day I was walking down one of our main streets with the head salesman of the hardware department of one of our large departmental stores. His salary was larger than mine. He had a neat little home of his own. He was reared on a little farm in Halton county. To him too, I imparted my ideas of a farm of my own. "Just what I have been thinking of," said he. "I have got as far as I can here. From now on I am on the downhill grade. I want to be independent."

THE DRINK HABIT

This man might make a success of the farm. He is a bright fellow with business ability, but he has one bad habit. Occasionally he gets off on a spree. It is very, very easy for the city young man to get the drink habit. You never know how liquor will grip you until you get into the position where it more than tempts you. It is part and parcel of the easy habits of a great city, where people are over-worked, under-exercised and mentally oppressed. The country boy who believes that he will pull through, that he will win because of sobriety and industrious as he, have fallen into the drink habit; for the artificial life of the city breeds bad habits.

Just one more instance of the several that I quoted when writng my nephew. I made some alterations recently in the plumbing of my house. I got into conversation with the head plumber. Here is his story: 'I get $1,000 a year. That is about as much as a tradesman can get. Most of us get much less. If we take a single holiday we lose our day's pay. Quite frequently we are out of employment through no fault of our own. Then the savings of previous months disappear like light air. My wife and I have manged to save about $200 a year by scrimping at every point. A season of hard times would use up the whole."

I don't know what the average wage of the city worker is. Those who get as much as I do, $1,500 a year, consider themselves very fortunate. My nephew would stand a small chance of securing such a salary. Few country boys would. The labor market is over-supplied. Without any special training he would not be able to make up a special line of work. He would have to enter that class where competiton for jobs is most severe —that of the unskilled laborers. If my persuasions count for anything, my nephew and I will soon be neighbors up in Huron county.

The Outlaw Boar

By CLARK E. LOCKE

Continued from July issue.

LATE one evening as he topped a rise, the pungent smell of woodsmoke filled his nostrils, and the sounds of an axe floated up. He froze into an attitude of watchfulness, even as porkers in a barnyard are observed to do. Below in a little valley, stood a shack. Tom Barton, out for his winter's trapping, was setting things in order for the season. His partner, a half-breed, lounged by the door, peeling potatoes for the evening meal. Suddenly the dog, a nondescript mongrel, set up a shrill yapping, and the man looked up.

"What in Heaven's name is that, Tom?" he cried, in affrighted tones, as he glimpsed the huge, misshapen figure on the crest of the hill.

"That," said the woodsman, dropping his axe in astonishment. "Why, that's a wild hog, as I live. Wait, a minute." And like a rabbit, he dived into the house after a gun. In a moment he appeared, jambing cartridges in his rifle. Two shots rang out; but they were hasty and the animal was on the move. Turning with a snort of terror, the boar had galloped away in the gloom. But hasty as the shots were, one had touched him, and a red weal was scored along his flank. With more pain and terror than he had known since freedom, he raced along the skyline, and vanished up a ravine.

"That's the boar from the Twin Sisters," said Barton, with conviction to his comrade that evening. "And, my, what a beauty. There's enough meat on him to feed a garrison."

IN the morning they hunted for miles around, but the dog could not catch the scent on the rocks. The terror of man had come once more to the vagrant and he was plunging straight into the wilderness in reckless flight.

It was in this mad, hasty trek that the boar came into second contact with a bear, and the encounter which followed, piled on the occasion of his flight from the cabin, chastened his adventurous spirit. He was trotting slowly across one of the little table-lands which frequently occur along the north shore, when a strong animal odor reached his nostrils. He paused, wagged his great head from side to side, and then, advancing around the jutting rock in quick jerky fashion, came to a sudden stop. A lean she-bear, busied in the exploration of an old stump, had not heard his approach. A grunt, however, and she wheeled about. But this time there was no bolting up the hill in a panic. Instead, red passion flamed into her eyes, and she dropped to attack. The hog at once drove at her, half-rearing after the manner of his kind, and slashing out with his fangs. The bear, however, even under the disadvantage of being taken on the turn, was an old experienced fighter. Sidestepping as lightly as a boxer, she evaded the rush, and delivered a tremendous smash of her forepaw. The blow, glancing slightly, landed on the shoulder of the hog and tore open the mane and hide. Only the marvellous strength of his shoulder withstood the cracking of his bones like pipestems. In a twinkling he was on his feet, and in an excess of fury, launched unexpectedly at her, and dodging another sweep, ripped a flaring gash down her side.

The stump in which the bear had been rooting stood on the edge of a gully with a twelve-foot drop, and the contest was now waging near the edge. The last act was partly accidental but none the less final in its conclusion of the fray. Raging with the pain of her wound, the bear dropped again to all fours and attempted to seize the assailant in a strangling hug. In doing so, however, she was perilously near the brink. Had she once got her grip on the boar, his size and strength would have availed little; but, as it was, the impact of his last charge, sweeping down like a thunderbolt, drove her to the summit of the cliff. Slipping steadily with her claws scoring the rocks, her feet gave way and she thundered down the declivity. A last parting blow, however, spun the boar backwards like a top and he bowled over and over, coming up with a bang against a boulder. This ended the fight. The combatants, one from the foot of the cliff and one on the plain above, lumbered off sullenly in opposite directions.

AFTER a few days' chase the hunters had given up the pursuit. Since the evening in question not a sign had been seen of the animal, not even a spoor to follow, and it became a jest between the two men as to the trick their imagination had played them. A pig in this district! The thing was absurd. At the same time a solemn contract was entered between them that nothing should be said of the adventure, on arriving back in the village. They were not going to be laughed out of countenance as two superstitious old women.

Nevertheless, a month later, their excitement was stirred threefold. Standing one day on the shore of a marshy bay where he had been setting muskrat traps, Barton found peculiar tracks in the sand. "It can't be deer," he argued. "No deer ever had such splay hoofs. Besides it ain't the way a deer walks. By Gum," he ejaculated, glancing hastily around. "It's that pesky hog again. We'll sure get him this time." And bursting with the news he hastened back to camp.

BACK two miles from the trapper's shack, lay a lumber camp. Twenty men had already arrived, and cutting operations were about to begin. Early in the dark hours of the second morning, Sandy, the cook, was aroused by the sound of grunting and rummaging in the garbage pile at the rear. Shortly, too, Cæsar, an old hound in the men's quarters, set up a baying. Throwing up his window the cook peered out, and in the faint grey light, detected a large peculiar-shaped creature lumbering off through the clearing. The boar, driven to desperate straits, had come down to forage for garbage.

"Holy saints in Heaven, what was that?" ejaculated the cook, straining his eyes in the dim light. "Looks like a small buffalo or a new kind of bear." It was too cold, however, to do much speculating in the night air, so at the breakfast tables the chopping gang heard highly embellished details of the occurrence, and with the scepticism of the backwoodsman, laughed at Sandy's story as a hugh joke specially prepared for their delectation.

Now, Cyrus J. McShane, of Pittsburgh, cheated of his summer's outing on the Twin Sisters, and mightily peeved at the circumstances, had determined in lieu of it, to take a few weeks of northern winter, following out an old ambition of securing some wolf pelts. Acting on the advice of Barton he arranged to put in three weeks at the lumber camp, and was bringing with him two Russian wolfhounds of celebrated pedigree. It happens that he, with a whole outfit of baggage and a small armory of weapons, arrived in camp on the very day of Sandy's story. He was a full-faced man with a keen love of outdoor life and a keen ear for a good story.

"That sounds good to me," he declared, laughing heartily at the excitement of the cook, as he told again his oft-repeated tale of the nocturnal visitor. "Tige and Nero are the very boys for such a job. Just the thing to key them up for a good wolf chase. We'll have a run in the morning."

AT ten o'clock the party issued forth. It was a fine, late, fall day. The air was crisp and bracing. The rocks rang like metal to the footsteps, and a film of frost had spread over all the evergreen boles and foliage. Barton had come over early to see if the American had arrived and little persuasion was required to press him into the hunt.

Not ten minutes after leaving the shanties did the old hound, leading the pack, break into a deep-voiced bay and dash off through the underbrush. In the desire to make the hunt as interesting as possible, every dog in camp had been requisitioned, and a nondescript pack issued forth. Old Cæsar was brought along because of his excellent trailing propensities, and in addition to the wolfhounds, Smart, a snappy bull-terier, and Jo, a mongrel collie, were now trailing out in the chase.

"We'll never catch them," panted McShane as he labored along. "Those dogs will run for miles." Suddenly, however, a distant clamor was heard, and the noise grew stronger. The chase, whatever it was, had turned, and was coming nearer.

"There they are. My God, what's that they're chasing?" burst out McShane, pointing to an elevation a quarter mile away. Along the plateau, racing at top speed, was the boar, and stretching out far behind him came the wolfhounds, hound, and collie in order.

"They'll corner him in three minutes," shouted Barton. "Come over this way and we'll see the finish." And cutting across diagonally, the men joined the pursuit.

SURE enough, the prey was cornered in a few moments. In a small pocket gully, the black boar wheeled to face his foes, and when the hunters rushed up, the fight was on in terrible earnest.

The clamor at first had been tremendous, the wolfhounds opening out their deep voices at the sight of the creature at bay. This, however, soon died in the stress of a fearful combat. It was a veritable vortex of animals which the men witnessed from the top of a neighboring boulder. When the hounds, roaring around the corner in full tongue, had

come suddenly upon the great black beast, standing chop-chopping in the shadow of the rock, they had piled on him even as a wave piles on a half-submerged reef. The sheer weight of attack would have seemed to overwhelm him. But in a moment the charge was scattered. As the dogs were hurled off, a fearsome gash ran red on the flanks of one. The collie, leaping fearlessly to the attack, as such dogs do in the first flush of valor, cannoned off the battle-scarred shoulder, unharmed, escaping by the merest inch a sweep of razor-edged fangs.

Again the pursuers rushed like an avalanche, and once again were shaken off. The big hounds could not gain a grip on the coarse, heavy throat, and again and again the huge powerful head, weaving back and forth with uncanny rapidity, hurled them aside, bleeding and torn.

There was something devilish in the last stand of the big outlaw. Crouching, with head lowered and slaver streaming from his chopping jaws, he met every rush of his foes with a vicious nimbleness of movement that was amazing. His little red eyes, gleaming from the bloody, scarred face, seemed fixed in a straight gaze, but the great head was faced to meet every attack.

THE battle was going hard with the hounds. The big pedigreed brutes, fagged with the chase on the rocks and baffled by the fearful sidelong sweeps or nimble drives of the boar, were sobbing in their throats, as they launched themselves again and again at the foot of the rock. The collie with two great body gashes was nearly out of it, and the foxhound, never a fighter, was stepping cautiously about in the background, seeking an opening.

But the day of the outcast had come. The fight had gone even harder with him. The muscles of a foreleg had been stripped in a chance grip of the collie, and his head and shoulders were a mass of bleeding wounds. Then, too, the appearance of the men in the background filled his soul once more with that vague dread which had always been with him since the shot in the dusk had seared his shoulder.

It was strategy, however, which hastened the end of the combat; the cunning of lesser assailants pitted against the stronger, and backed up with a last tremendous avalanche of energy. Like a white streak, the terrier, thirty pounds of daredevil recklessness, hurled himself at the throat of the boar. At the same moment the old fox-hound, long-used to harrying deer, stole from the rear and snapped the tendons of his quarters. With a roar the two big dogs leaped in, and even the mangled collie dragged in for the finish. For the first time the prey was down, but the fight waged none the less furiously for the time. But the last few moments were destined to be brief. Above the din of the scrimmage, the sharp, clear crack of a rifle rang out. In a minute all action was stilled. The body of the boar relaxed, and the assailants drew off. Tom Barton, from the crest of the rock, lifted his smoking rifle, and scrambled down to join the rest of the hunters. The hounds were whimpering and comforting their sores, and the American was solicitously examining them for serious injuries. But Barton stood gazing at the frame stretched out and stiffened in death.

"Poor old divil," he said, looking down at the massive head and shoulders. "So I was right after all. Couldn't make the grade, could you, old chap? But you're the gamest fighter of them all." And he took off his hat in respect.

WHENEVER Georgian Bay is mentioned in the home of Cyrus McShane, of Pittsburgh, he has a story to tell, and, grasping the visitor gently by the arm, he will propel him into his den, where, on the walls hangs a remarkable boar's head. Somehow the expression of the eyes is that of a captured outlaw, bold, hard, defiant, and yet with something of a wistful straining after freedom. McShane relates his story very well; the trapper in the north country could tell it even better; but to the keen observer, the eyes on the wall read out their version, which is more graphic than them all.

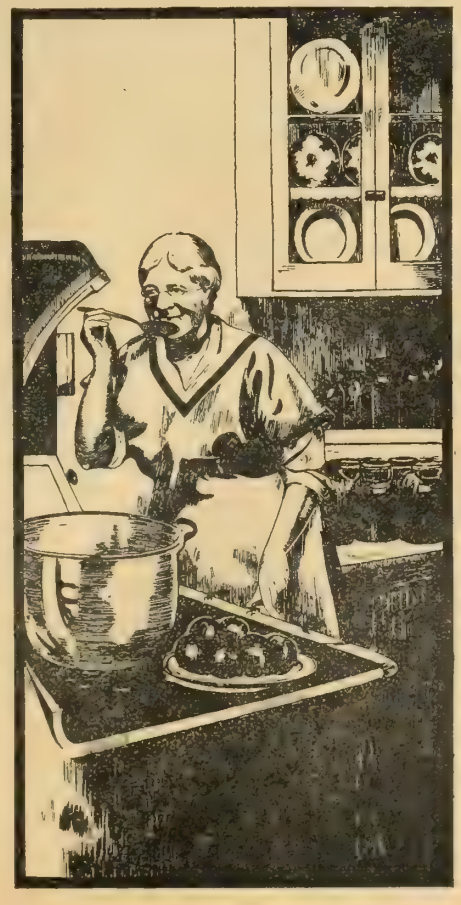
Preserving the Year's Fruit: By ETHEL M. CHAPMAN

Cold Pack, Sugarless Canning, Jams, Jellies and Other Methods

THE SECOND OF OUR SERIES OF CANNING ARTICLES

IN the July number we dealt with the subject of canning vegetables. From the standpoint of actual food value, vegetables seemed of more importance than fruits, because, as a rule, they will go farther to take the place of the concentrated foods which we want to export for our army and our allies. However, a good supply of canned fruit in our cellars this winter will serve the same purpose in a different way. We know the medicinal value of fruit in the diet,—that its mineral salts and acids are regulators which will do lots more to keep the human system in running order, than many concoctions which come out of a medicine bottle, and are more expensive. Further, we know that fruits are irresistible tonics, and herein lies their charm for the present crisis.

We have many highly nutritious foods which are cheap, and produced in abundance in this country, but which do not tickle the palate of the average cooked cereals and the coarse-flour breads. A supply of well-preserved fruit retaining its natural delicate flavor, and clear, bright color will furnish the "pep" for a meal consisting largely of these cheaper, and more nutritious but less appetizing foods. A breakfast of oatmeal porridge with whole milk, bread and butter and fruit, or a supper consisting of a milk or vegetable soup, whole wheat bread or corn muffins and fruit, is a quite sufficient for the average-working person. Unless we consider the food question more seriously, and make more sacrifices than we have yet done, many families in Canada will be going to bed with less, before the winter is over. And of course these would be royal rations for our prisoners of war in Germany, or for the families of the starving nations in Europe.



Then we want to secure, in some way or other, a supply of canned fruit for our military convalescent hospitals in Canada, and of the exportable dried fruits, jams and jellies, for Red Cross hospitals overseas. Some of the Women's Institutes are already planning to give donations of canned fruit and vegetables to the military hospitals; and in some cases the raw fruit is donated and the canning is done in the hospital kitchens.

CANNING FRUIT BY THE "COLD PACK" METHOD

Most fruits can be sterilized for canning with so much less cooking than vegetables, that the "open kettle" method has been used successfully for years. In fact it may be considered less trouble where only a jar or two are to be put up at one time,—and every single jar preserved as the fruit ripens in our own gardens will amount to a good deal at the end of the season. As a rule, however, the "cold pack" method of canning is better. It makes it easier to keep the fruit whole and to preserve the natural color. Where several jars are to be put up at one time the work can be done with less trouble and less fuel, and the greater part of the work can be done away from

the stove, an item of considerable importance in hot weather. The "cold pack" method, as explained last month, simply means packing the raw fruit into sterilized jars, filling the jars with a syrup and cooking the fruit in the jars set in a vessel of boiling water or in a steam pressure cooker. An ordinary wash-boiler with a wire or wooden rack to keep the jars from touching the bottom makes a very good home canning outfit.

To lighten the work of a "canning day," the syrup may be made on the previous day. Tastes will differ as to the quantities of sugar to use, but the following proportions of sugar and water may be taken as reliable: *For strawberries, cherries and rhubarb two cups sugar to one cup water. For peaches and plums, two cups sugar to one and a half cups water. For pears, peaches, sweet plums, sweet cherries, raspberries, blueberries and blackberries, two cups sugar to four cups water.* In each case dissolve the sugar in the water and let it boil from two to five minutes. Of course these syrups are not sufficiently concentrated for what we call "preserves."

The quality of the canned product depends, in no small degree, on having the fruit fresh and sound. So far as it is possible can the fruit the same day it is picked. While preparing the fruit for canning, sterilize the jars, tops and rubbers, by putting them on a rack or thickly folded cloth in the wash boiler covering with water, bringing the water to boiling-point and boiling five minutes. Sour berry fruits such as currants, gooseberries, sour cherries and rhubarb will be more delicate in flavor if blanched in boiling water for one minute and then plunged quickly into cold water. If you haven't a wire basket for the purpose put the fruit into a cheese cloth bag, and lower it first into the boiling, then into the cold water. Blanching and cold dipping the hard fruits like pears, apples and quinces for two minutes, before paring them helps to preserve the natural color.

When the fruit is ready to put into the jars, lift the jars from the hot water, being careful not to set them on a cold plate or in a draught for fear of breaking the glass. Pack the fruit in the jars without crushing, but shaking down gently. Pour in the prepared syrup to fill the crevices and to overflow the jars, and place the rubbers and tops in position. Put the rings on, but do not screw them down tightly,—about two turns will be enough. Set the jars on the rack in the boiler and pour water into the boiler to come to within two inches of the tops of the jars. Put the cover on the boiler and set over the fire. From the time the water begins to boil allow twenty minutes for sterilizing the soft fruits. The hard fruits like pears, quinces, and apples must be cooked until they are tender, and it is a good plan to give very hard pears and quinces a preliminary simmering in water before putting them into the jars. Fruits like these which do not break up easily can be canned very nicely by cooking slowly in a syrup in the preserving kettle, then filled into jars and sealed.

In sterilizing the fruit in the jars, as soon as the water in the boiler has boiled twenty minutes, remove the cover to let the steam escape, lift out the jars one at a time and finish screwing down the

rings. Do not disturb the glass top at all. Turn the jars upside down to make sure there are no leaks, and when cold set them away in a dark cupboard to prevent bleaching.

"RAW CANNING" OF SMALL FRUITS

Small fruits like raspberries, strawberries or sliced peaches can be sterilized so as to retain their color, shape and natural flavor without actual cooking. Have the fruit freshly picked and not overripe. Pack it into sterilized jars and have the jars hot. Make a syrup already made, heat it, and when it is boiling pour it over the fruit to fill the jars to overflowing. Put on rubbers, tops, and rings and screw down tightly. Set the jars directly into a washtub or boiler containing boiling water and add more boiling water to fill the vessel to the tops of the jars. Cover over with a blanket and when the water has cooled lift out the jars and tighten down the tops. Turn them upside down to be sure they are airtight.

SUGARLESS CANNING

The cost of sugar required to take care of the large quantities of fruit in the canning season need not discourage the saving of the entire available supply when we know that fruit can be kept perfectly without sugar. The fruit is just stewed in a kettle or packed into jars using hot water instead of a syrup, and sealed without the addition of any sugar. The necessary sugar is added when the fruit is opened for use. There might be some objection to this method with the large, thick-fleshed fruits, on the ground that unless sugar is added while cooking the sweetness cannot penetrate the fruit. This objection would not hold with berries and the smaller fruits, and a minute or two of cooking with sugar when the fruit is opened gives very good results even with the larger fruit. The shape and color of the fruit may not be quite as perfect.

BACK TO THE OLD TIME DRYING PROCESS

The drying of fruits for use out of season was an art of our grandmothers' which worked successfully. We can wisely go back to it to-day in order to take care of bushels of fruit which we may have neither the jars nor the time for canning. Three main ways of drying fruits will be practicable in the home sundrying, drying on racks or strings over the kitchen cookstove, or drying in the oven with a slow fire and the door partly open. Sun drying has much to recommend it, since there is no danger of the fruit scorching, and the flavor being ruined, but it is difficult to protect the fruit from dust. Mosquito netting can be used to protect it from insects.

Cherries should be stoned before drying. Plums are wiped and stoned. Peaches may be pared or wiped well with a coarse towel and dried with the skins on. Apples, pears and quinces are cut in slices one-fourth of an inch thick and dipped in a weak salt solution containing eight teaspoons of salt to a gallon of water. It is only necessary to dry apples, plums, peaches, etc., until they become tough and somewhat leathery. With raspberries the drying should be stopped as soon as the berries fail to stain the hands when pressed. Cherries should be dried to about the consistency of raisins.

A very cheap and satisfactory tray for drying fruit either in the sun or over the kitchen stove can be made by making a square frame from lath or strips of wood about two inches wide, and tacking over this frame a piece of small-mesh galvanized wire-netting. The air can circulate through this as it cannot where the fruit is spread on a board. The prepared fruit is spread on these trays in a single layer, covered with mosquito netting to protect it from flies and dried either in the sun or suspended over the kitchen stove. In sun-drying bring the fruit into the house when the sun goes down, and set it out again in the morning. About three hot sunny days will be required, and the fruit must be turned quite often. If damp weather comes the drying will have to be finished in the over.

After fruit has been dried it will always be found advisable to "condition" it. This is best done in a small way by placing the dried fruit in boxes, and pouring it from one box into another once a day for three or four days, so as to give the whole mass the same degree of moisture. In this way, if any of the fruit has not been sufficiently dried it will be detected in time to put it back in the drying trays before it spoils.

SURER WAYS IN JELLY-MAKING

Many a housekeeper has come up against the problem of jelly that would not "jell." This difficulty is easily overcome if we know of the deficiency in time. The substance in fruits which has the jellying property is pectin, and it is contained largely in the cores and hard parts and in largest quantities in underripe fruit. So a few apple cores, the white part of orange rind, or a considerable quantity of slightly underripe fruit will generally supply the necessary pectin. To test the juice for pectin, put some in a glass and add an equal quantity of alcohol,—if you can get it. If pectin is present the juice will go into a solid gelatinous mass which can be lifted on a spoon. Besides pectin, a certain amount of acid is necessary, and for this reason some fruits like raspberries will not make good jelly alone. Lemon juice or rhubarb added to such fruits will sup-

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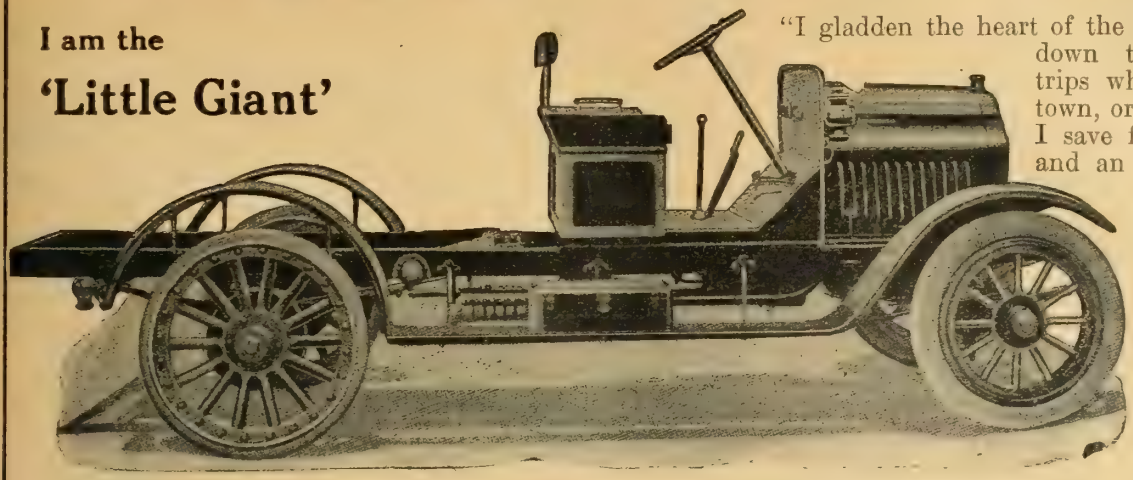

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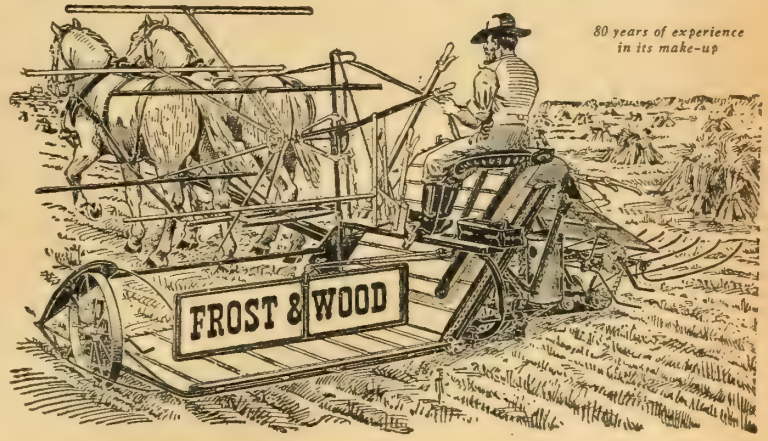

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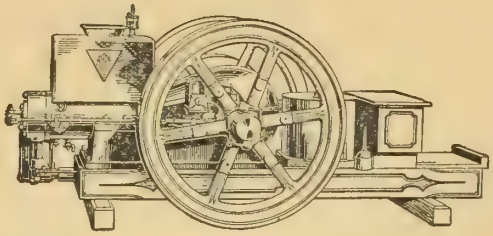

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ply this deficiency. Combinations like raspberries and currants, quinces and apples, elderberries and green grapes, give excellent results.

The idea that sugar caused the juice to "jell," has led many people to use too much sugar which results in a sticky, syrupy jelly. Where fruit contains a lot of pectin, and where little or no water is used in extracting the juice, equal parts of sugar and juice may be used; less sugar might give a tough jelly. When water has been used in extracting the juice, or where there is little pectin, as in some berries, three-fourths as much sugar as juice will give a better consistency.

The quickest and surest process for jelly making is to cut the fruit into pieces using all the skins and cores. Put into a granite kettle with a very little water and cook until the juice is well drawn out. With very juicy fruits like grapes and currants, mash the fruit at the beginning and do not add any water. Crush the fruit and strain through a double cheesecloth or flannel jelly-bag. Add more water to the pulp, strain and boil again. Boil the strained juice for twenty minutes. Weigh out from three-fourths to an equal quantity of sugar, heat it in the oven and add to the juice. Heating the sugar shortens the time of cooking and gives a better colored jelly. Cook until it will jell and turn into sterilized glasses. When cold, brush the top of the jelly with alcohol or brandy and cover in the melted paraffine just warm enough to pour, or cover with rounds of paper dipped in brandy or alcohol. Put two covers on the glasses or paste paper securely over the top.

JAMS, MARMALADES, APPLE BUTTERS

In selecting berries or other fruits for jam, the ripe, broken ones will give fine color and flavor, but at the same time there should always be about one-half the quantity which are slightly under-ripe. These contain the pectin which gives a jelly-like consistency to the product. Rapid cooking with constant care to prevent scorching is essential. Three-fourths as much sugar as fruit, by weight, is sufficient to keep the fruit and will give a more delicate flavor than where the old rule of "pound for pound" is followed. To test when the jam is cooked to the right consistency, cool a little in a spoon, and allow it to drop. If it will not pour, but falls in a sheet or flake like jelly, it is done. A quicker way is to use a candy thermometer and cook the jam until it registers 220 degrees F.

Raspberry or Strawberry Jam

4 pounds raspberries or strawberries
2½ pounds sugar.

Mash berries, add sugar, cook thirty minutes or until the desired consistency is obtained, stirring often. Pour into glasses or jars and cover.

Black, Red or White Currant Jam

4 pounds currants
4 pounds sugar

Stem currants, crush slightly; add sugar, let stand overnight. In the morning cook one half hour, stirring often. Turn into glasses and cover.

Green or Ripe Grape Jam

Wash and stem grapes. Separate skins from pulp. Cook skins until tender and press through a sieve. Cook pulps ten minutes and press through a sieve. Com-

bine the two. Add one pound of sugar to every quart of the fruit. Boil one half hour, stirring often. Pour into glasses or jars and cover.

Peach Marmalade

4 pounds peaches
2 pounds sugar
Juice of 2 lemons

Wipe and cut peaches in halves, remove stones and cut fruit in pieces. Add a few of the cracked pits. Add sugar and cook slowly two hours. Add lemon juice, pour into glasess and cover.

Plum, apricot, prune and quince marmalade may be made in the same way.

Ginger Pears

8 pounds pears, not quite ripe.
8 pounds sugar
1 cup water
Juice and rind of 4 lemons
⅛ pound ginger root.

Peel the pears, core and cut in thin slices, add sugar, water, lemon juice and rinds cut in thin strips. Add ginger root cut into pieces, and simmer until thick as marmalade.

Apple Butter

To one bushel apples add eight quarts cider. Cover and boil until tender. Rub the pulp through strainer and cook thirty minutes longer, then measure. For each gallon add eight cups sugar, eight teaspoons ground cloves, eight teaspoons cinnamon. Stir and boil twenty minutes longer. Fill into jars and seal with paraffine.

Apple Butter Without Sugar

To one bushel sweet apples add eight quarts cider. Cook until tender, put through a strainer and cook until thick. Add nine teaspoons ground cloves and nine teaspoons cinnamon. Give three to four hours slow boiling, fill into jars and seal with paraffine.

Apple Butter Without Cider

Pare and core the apples. Boil in water until soft and mash to a fine pulp to each twenty-five pounds apples add two ounces cinnamon, one ounce ground cloves, one ounce nutmeg and six pounds sugar. Cook into thoroughly mixed and thickened.

Cider Apple Sauce

Reduce four quarts of new cider to two, by boiling. Add enough pared, cored and quartered apples to fill a good sized kettle. Cook slowly for four hours.

FRUIT "PRESERVES"

"Preserves" are generally taken to mean fruit cooked with from three-fourths to its whole weight of sugar, without breaking it up like jam. The object is to have the fruit permeated with syrup. Care must be taken to do this gradually so as to avoid the shrinking and toughening which usually follows when fruit is placed at once in very dense syrup. The following are a few seasonable recipes for preserving.

Preserved Crab Apples

4 pounds crab apples
4 pounds sugar
4 cups water.

Let the water and sugar come to a boil. Add the crabapples either whole, or quartered and cored. Cook slowly un-

Continued on page 24

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8533—One-Piece Dress For Misses and Small Women.—Sizes 16 years measures 2½ yards at the lower edge. As shown, size 18 years requires 5⅝ yards of 36-inch pongee for dress with 1¾ yards of embroidered banding to trim. Price 15 cents. Sizes 16, 18, 20 years.

8661—Dress for Misses and Small Women.—Having a blouse to be slipped on over head, a draped collar, one-seam sleeves in full-length dartfitted to the elbow, or in shorter length with turnback cuffs and a two-piece slightly gathered skirt in regulation waist line. In size 16 years the skirt measures about 2¼ yards at the lower edge. As shown on the figure, size 18 years requires 2⅛ yards of plain voile for the blouse and 2⅝ yards of 36-inch crossbar voile for the collar, belt, cuffs and the skirt, or 4⅞ yards of 36-inch, if made of one material. Price 15 cents. Sizes 16, 18, 20 years.

8468.—Ladies' Shirt-Waist. — Sizes 34, 36, 38, 40, 42, 44 inches bust measure.

8649.—Ladies' Two-Piece Skirt. — Sizes 24, 26, 28, 30, 32, 34 inches waist measure. As shown, the medium size requires 3⅜ yards of 36-inch voile for the waist, ½ yard of 36-inch striped voile for the bias bands on collar, cuffs, and tie, and 2½ yards of 42-inch novelty striped serge for the skirt. Price, 15 cents each.

PRESERVING THE YEAR'S FRUIT

Continued from Page 23.

til the apples are tender but not broken. Fill into hot jars and seal.

Preserved Peaches

4 pounds peaches
3 pounds sugar

Pare peaches, cut in halves and take out stones. Arrange peaches and sugar

in layers in preserving kettle, and let stand over night. In the morning simmer until peaches are tender. Fill hot jars with the fruit. Boil syrup five minutes, fill jars with syrup and seal. Peaches preserved in this way are excellent for a peach shortcake.

Preserved Citron

4 pounds citron
4 pounds sugar
4 cups water
4 lemons, juice and rind
Small piece of ginger root

Wash citron, cut in halves and remove seeds. Sprinkle very lightly with salt and cover with water. Let stand over night, then drain. Cover with clear water, let stand four hours and drain again. Remove skins, cut into cubes and cook until transparent in syrup to which ginger and lemon have been added. Fill into hot jars and seal.

Preserved Pears

4 pounds pears
4 pounds sugar
2 cups water

Wash, pare, core and cut pears in quarters. Put into cold water to prevent discoloring. Make a syrup of the sugar and water. Cook only enough pears to fill a jar at a time. When the fruit is tender, lift it into the jars, add the syrup and seal.

Preserved Plums

4 pounds damsons, green gages or blue plums.

Pick over plums and prick the skins so they will not burst in cooking. Arrange alternate layers of plum and sugar in a granite dish and let stand over night. In the morning drain off syrup, boil and skim. Add plums and cook until tender. Fill into hot jars and seal.

Stuffed Vegetable Marrows.

Choose rather small ones, cut off a slice from one end, and scoop out the seeds, fill the hollow thus made with sausage meat, which should have been scalded in hot water, and boiled for a minute or two. Tie the slice which was cut off into its original position with tape. Place in a saucepan, without water, with a thin slice of butter on each, and sprinkling of pepper, salt and nutmeg. Add a tablespoonful of vinegar and half a pint of stock; cover the pan closely and simmer gently for an hour, or until the marrows are quite tender. Lift them on to a hot dish, skim the fat from the surface of the liquor, and pour this over the marrows for a sauce. A few small baked tomatoes are a pretty garnish. The marrows may be peeled or not as preferred; in the former case they are easier to help, in the latter they keep together better. Of course the tape must be removed before serving.

Young Carrots.

Carrots contain a great deal of sugar, so should be eaten freely wherever there is a shortage of that valuable commodity. They should be trimmed top and bottom, and washed, also scraped if they need it, which they may not do. Place in boiling water with salt and a bit of fat, and boil for twenty minutes. They require no sauce.

Waist—8468 Skirt—8649

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FOOD FOR HARVEST HANDS

By Winnifred Marchand.

Generally speaking the work of preparing meals for the harvest hands has no difficult problems. The chief trouble lies in assembling the food, and in putting it up attractively.

There is also the difficulty, on the part of many farm women to know how much to prepare for an emergency, or a special occasion such as a threshing or an exchange of works. We have all seen the prodigal way that country women provide for a church social or a school picnic. There is always an over supply. Our food controller would likely take a fit if he were to try to regulate this form of food supply.

At any rate, every woman owes it to her country and to the rest of humanity, that she waste nothing. In this regard a bulletin, issued by the Department of Household Science of the University of Illinois covers some vital points in this matter.

Feeding the harvest helpers is hard for the woman who cannot have suitable appliances and has to depend on makeshifts.

Among the helpful utensils is a three or four gallon double boiler for making soups, gravies and puddings; also a large steam cooker which will take care of fifteen or twenty loaves of brown broad or steamed puddings, at once.

A good homemade fireless cooker will help in cooking ham or boiled beef.

Do not try to fill up hungry men with foods that take much time to prepare. One should not try to serve pies often, unless there is plenty of help. Rolling crust is slow work even for a swift piemaker.

Three gallons of tapioca cream can be made at once in a big double boiler, almost as easily as one quart. When milk is available, it is no more expensive than pie and is as nourishing.

In the same way, a large quantity of berry pudding may be mixed at once. A shortcake is more quickly handled than pie crust.

When it is possible to buy bread from a bakery during harvest time, the women of the farm should not be expected to make it. Doughnuts require considerable handling but little more than biscuit or muffins, and usually are more satisfactory.

The main thing to guard against is taking proper care of the food in the hot weather. For that reason it is best not to keep much over from day to day.

The more variety we can give in the grain foods, the less meat will be required. Try to serve biscuit, dumplings or squares of pie crust and stuffiings with meats and fish to make a less quantity satisfying.

Food must not be greasy. Bake and broil and steam meats rather than fry them. By planning ahead and starting in season, the tougher portions of meats may be cooked till tender.

Here is a table of a balanced ration for a man of 155 lbs. weight, at severe work. A study of the table will help any woman to estimate for a bunch of men.

Man At Severe Work

Kind of food	Ounces
Breakfast:	
Apple Sauce	4.00
Oatmeal	2.00
Cream	2.15
Sugar	0.56
Sausage (pork)	2.00
Bread	2.60
Butter	0.50
Potatoes	4.00
Coffee (1 cup)	0.40
Sugar	0.28
Cream	1.07
Total ounces	19.56
Dinner:	
Boiled ham	3.00
Potatoes	4.00
Sweet potatoes	4.00
Turnips	4.30
Corn bread	5.20
Bread	1.30
Butter	0.75
Cold slaw (cream)	1.33
Pie, mince	4.00
Coffee (1 cup)	0.40
Sugar	0.28
Cream	1.07
Total ounces	29.63
Supper:	
Dried beef (creamed)	1.00
Cream	1.07
Fried potatoes	2.40
Bread	1.30
Butter	0.75
Apple sauce	4.00
Ginger Bread	4.00
Milk, skimmed	9.40
Total ounces	23.02
Total for day	73.11

The following weekly outline for meals with special reference to extra hired men, will be a help to some. If they are too heavy it is an easy matter to lighten the menu.

Monday

Breakfast: Cracked wheat and cream, omelet, bread, coffee, doughnuts. *Dinner*: Chicken fricassee and dumplings, rice with tomato, green peas, cucumbers, peach pie cream, cake. *Supper*: Toasted herring with potato salad, cheese toast, quick biscuit and berries.

Tuesday

Breakfast: Brown bread and baked beans (re-heated), ginger cookies, coffee. *Dinner*: Stuffed beef boiled, baked pota-

toes, creamed onions, pickles, steamed berry pudding with sauce. *Supper*: Chicken with rice, salt codfish hash, stewed rhubarb, cake.

Wednesday

Breakfast: Sausage, cornbread, stewed prunes, cookies, coffee. *Dinner*: Soup, roast pork, browned potatoes, beets, peach tapioca. *Supper*: Baked hash (beef), salmon salad, molasses gingerbread.

Thursday

Breakfast: Creamed dried beef, potatoes, bread, berries, coffee. *Dinner*: Ham and eggs, mashed potatoes, string beans, creamy rice. *Supper*: Clam (canned) chowder, hot pilot bread, peach shortcake.

Friday

Breakfast: Minced ham and eggs on toast, doughnuts, coffee. *Dinner*: Bean soup, fish (fresh or canned), potatoes, peas, squash, lemon pie (with two crusts). *Supper*: Lamb stew, cucumbers, Graham bread, boiled samp with syrup.

Saturday

Breakfast: Creamed salt codfish, hashed potatoes, muffins, coffee. *Dinner*: Hamburg steaks, macaroni and cheese, tomatoes, with lettuce or meat pie, Dutch apple cake with lemon sauce. *Suppers*: Baked beans with corned beef, brown bread, cucumber relish, cookies, berries.

Sunday

Breakfast: Cereal with bananas, griddle cakes with syrup, coffee. *Dinner*: Roast lamb, mashed potatoes, shelled beans, tomatoes, jellied peaches, watermelon. *Supper*: Cold corned beef, vegetable salad, bread, berries.

Alfalfa Luncheon Served

Alfalfa was served to Kentucky farmers recently in the form of hot biscuits, doughnuts, cake and candy, at a luncheon during the annual farmers' week exhibition of the Agricultural College at the State University. The progressive young women of the domestic-science department took care of the cookery and convinced their farmer guests that very palatable products may be obtained for the table from their alfalfa crops. The flour of alfalfa is of a creamy tint before cooking and a light green afterward, and while pea-green biscuits may not at first appeal to the average housewife, the flavor is regarded by many as rich and delicious. Food requirements may easily result in greatly increased use of alfalfa for flour in the near future. The recipes used in cooking it are about the same as those for wheat flour. Alfalfa candy is made from a glucose pressed from the stalk.

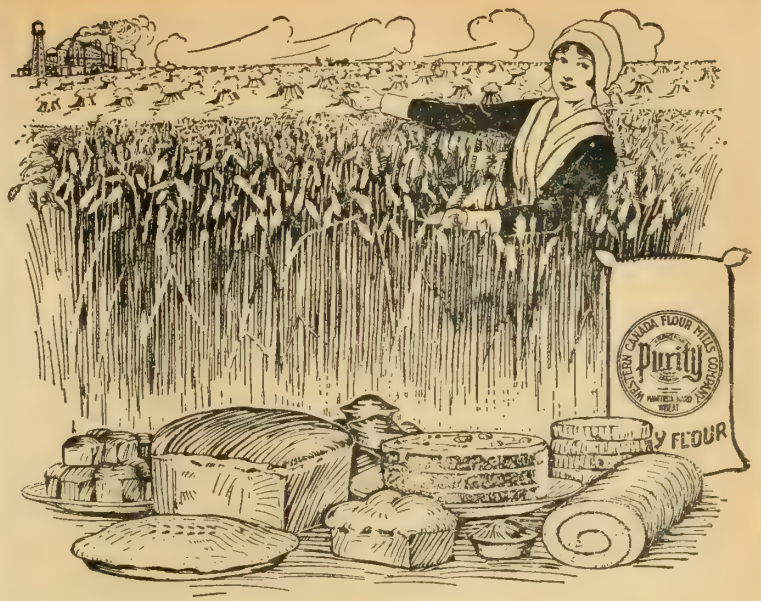
THE JOB OF A MAN

It isn't the work we intend to do
Nor the work we've just begun
That put's us right on the ledger sheet;
It's the work we've really done.

Our credit is built on the things we do,
Our debit on things we shirk;
The man who totals the biggest plus
Is the one who completes his work.

Good intentions do not pay bills
It's easy enough to plan;
To wish is the play of an office boy
To do is the job of a man.

—*System.*



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THE MONTH'S RECIPES

By GENEVIEVE

To Cook Swiss Chard

To get the full value of your crop of Swiss chard, do not pull it up by the roots. By cutting it off as it is wanted it will keep growing up fresh all summer and a small patch in the garden will furnish "greens" throughout the whole season. The leaves and stalks may be cooked separately. Cut off the leaves, wash and pack in a kettle with a very little water. Cook until tender, drain, chop if desired, and serve with butter, salt and pepper. Cook the stalks by themselves like asparagus, and serve with a sauce made either of the vegetable water or with milk. The recipe for either of these sauces would be as follows: Melt 2 tablespoons butter; stir into it 2 tablespoons flour, and while it is bubbling over the fire add 1 cup of either milk or the water in which the vegetable was cooked. Stir until well thickened, add one-half teaspoon salt, and a little pepper.

New Potatoes or Summer Turnips With Cream Sauce

Both new potatoes and summer turnips are delicious if cooked, drained and served with a cream sauce. Either whole or skim milk may be used, following the directions given in the recipe above.

Young Carrots With Green Peas

For the sake of variety, or where the supply of either carrots or peas is limited, the two may be combined to make a most attractive and appetizing vegetable dish. Cook each separately in salted water, drain and combine. Serve with a milk sauce or with butter, salt and pepper.

Steamed Cherry Pudding

¼ cup butter
½ cup sugar
1 egg
2 cups flour
4 teaspoons baking powder
½ cup milk
1 cup cherries, either canned or

Cream the butter, mix in the sugar, add the beaten egg. Mix and sift flour and baking powder and add alternately with milk to the first mixture. Stir in cherries, turn into a buttered mould or individual moulds and steam. If steamed in a large mould it will require about two hours.

Graham Pudding

¼ cup butter
½ cup molasses
½ cup milk
1 egg
1½ cups Graham flour
½ teaspoon soda
1 teaspoon salt
1 cup raisins seeded and cut in pieces

Melt butter; add molasses, milk, beaten egg, dry ingredients mixed and sifted and raisins. Turn into buttered mould, cover and steam about two hours.

Graham Muffins

1 cup Graham or whole wheat flour
1 cup white flour
4 teaspoons baking powder
¼ cup sugar
1 teaspoon salt
1 cup milk
1 tablespoonful melted butter.

Mix and sift the dry ingredients. Add milk gradually, egg well beaten, and melted butter. Bake in buttered gem pans in a hot oven for about twenty minutes.

Buttermilk Biscuits

Sift together two cups flour, one teaspoon salt, two level teaspoons baking powder and one-half teaspoon soda. Sift two or three times to make the biscuits lighter. Rub two tablespoons lard or other shortening into the flour, and gradually pour in nearly a cupful of buttermilk or sour milk, using just enough to make a soft dough. Mix lightly on a floured board, roll to half an inch thick, cut into shape and bake in a quick oven.

Sour Cream Biscuits

Follow the recipe for Buttermilk Biscuits, omitting the shortening and substituting cream for the buttermilk.

Cucumber Salad With Salmon Dressing

1 head lettuce
2 cucumbers
1 onion
½ cup salmon
Salt and pepper
Boiled salad dressing.

For individual service, make a bed of lettuce leaves on plates, and upon them place thin slices of cucumber and onion, salt and pepper. Put salmon into a bowl, and shred with a fork gradually adding a highly seasoned boiled dressing until it is of a consistency to pour. Beat thoroughly and pour over lettuce and cucumbers.

Hot Water Sponge Cake

2 eggs
1 cup sugar
½ teaspoon vanilla
1-3 cup hot water
1 cup bread flour
½ teaspoon salt
1¼ teaspoons baking powder

Separately. Beat yolks till thick (add sugar and vanilla. Stir in the hot water. Add this to the flour, salt and baking powder which have been sifted together, stirring only enough to mix the ingredients. Beat egg whites stiff, fold into the mixture. Bake about fifty minutes in a moderate oven.

COOL DRINKS AND ICES

By Pearl Lyons

The simple manner in which many delicious and thirst quenching summer drinks can be made on the farm, leaves the having of them to a little forethought on the part of the household manager. Besides when properly made and used in moderation they are aids to health when summer suns are hot. Here are a few recipes.

Raspberry Punch

2 lemons
2 cupfuls red raspberries
2 cupfuls currants
1 quart boiling water
2 cupfuls sugar
3 cupfuls tea

Extract the juice of the lemons. Wash and extract the juice from the berries and currants. Strain the juice through a cloth. Pour the quart of boiling water through the fruit pulp into another bowl but do not squeeze the cloth or the mixture will be clouded. Add the sugar to the last mixture which came through the cloth and stir until dissolved. Cool. Add the fruit juice and cold tea.

Iced Grape Juice

1 quart purple grape juice
1 cupful sugar
Cracked ice for serving

Discard any imperfect grapes, wash thoroughly and boil until skin, seeds and pulp will separate. Press the mixture through cheesecloth jelly bag. Add sugar

to juice and boil twenty minutes. Seal in bottles.

Lemonade

4 lemons
1 1-3 cupfuls sugar
8 slices pineapple
1 orange
1 quart water
Ice

Mint Lemonade

Use lemonade rule
Mint

Extract the juice from the lemons and remove all seeds. Add the sugar to the juice and stir until sugar is dissolved. Add the water, stir thoroughly, add the slices of pineapple and the orange cut in one-fourth inch slices. Add ice to chill the mixture. When serving, put one slice each of pineapple and orange in each glass.

For the mint lemonade, omit the pineapple and orange from the above rule and add a sprig of mint to the top of each glass when serving. Bruise the leaves of the mint slightly to add more flavor.

Gingerade

1½ pounds loaf sugar
4 quarts water
2 egg whites
1 ounce ground Jamaica ginger
2 tablespoonfuls lemon juice
⅛ yeast cake.
2 tablespoonfuls warm water

Dissolve the sugar in the water, add the egg whites well beaten and the ground ginger moistened with a little water to make it blend more easily. Place all in a porcelain kettle and heat to boiling point. Skim, then stand aside to settle and cool. Dissolve the yeast cake in the warm water and when the ginger mixture is cold, add the dissolved yeast. Strain through a cloth, add the lemon juice, bottle, cork tightly and put in a cool place. Is ready for use in two or three days.

Grape Juice Sherbet

2½ quarts water
5 cupfuls sugar
3 teaspoonfuls gelatine
5 cupfuls grape juice
¼ cupful cold water

Boil the water and sugar to a syrup or for about fifteen or eighteen minutes. Soak the gelatine in one-fourth cupful cold water. When dissolved, add to the hot syrup. Let cool. Add the grape juice and freeze.

Fruit Sherbet

2 oranges
3 lemons
3 bananas
3 cupfuls sugar
3 cupfuls water.
3 egg whites

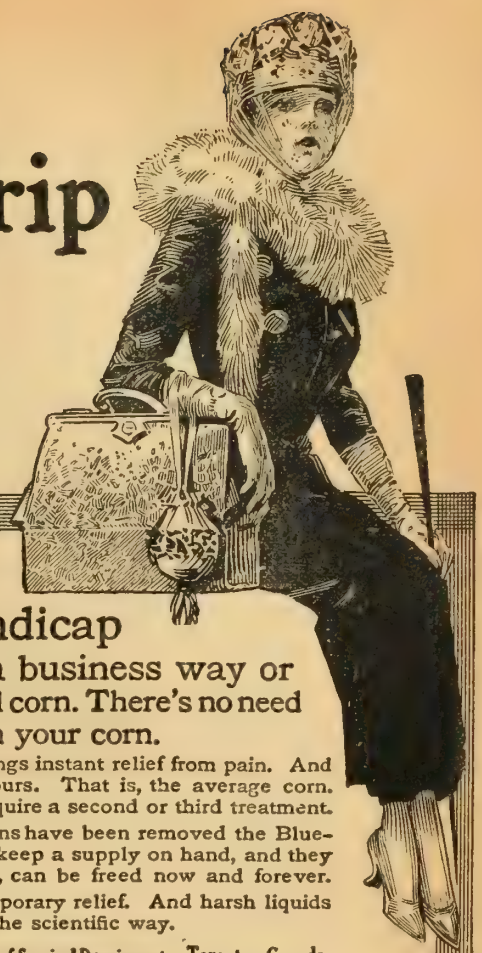
Extract the juice from the lemons and oranges. Mash the banana pulp and rub through a sieve. Add the water and sugar and stir until the sugar is thoroughly dissolved. Put in the freezer and when half frozen quickly stir in the stiffly beaten egg whites. Close the can quickly, repack and finish freezing.

Caramel Ice Cream

1½ quarts cream
1 pint scalded milk
1½ cupfuls sugar
1 egg
1 tablespoonful flour.
1½ teaspoonfuls vanilla

Caramelize half of the sugar by gradually heating in a frying pan, stirring constantly. The sugar will melt, turn brown and look like syrup. Do not let it burn. Set aside to cool slightly. Make a custard by mixing together the flour, the rest of the sugar, the slightly beaten egg and scalded milk. Cook over hot water until thickened, fifteen to twenty minutes. Stir constantly. Add the carmalized sugar to the custard, let mixture get cold, add cream and freeze.

Don't Take a Trip With a Corn



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But it is in the last degree unlikely that the noblest of the dumb animals will be rendered useless by mechanical devices. There are as many horses employed on farms as ever there were.

It is a peculiar fact in connection with horses, that, in spite of their strength, they require great care to preserve them in perfect health. This time of the year especially, when working hard in the intense heat, they are liable to all manner of ills and injuries. And it has been found that a great majority of these ills and injuries can be prevented from developing into serious disorders by the liberal use of Dr. Thomas' Eclectric Oil. This fine old remedy should always be on hand for use in a case of horse colic. The treatment, which is invariably effective, is as follows: Mix half the contents of one bottle in a pint of warm water and give to the horse. Then, half an hour later, give the balance of the bottle by the same method. This is a simple remedy for horse colic that you can rely upon with full confidence.

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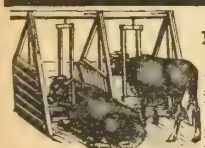

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August Work on the Farm

By GRASMERE

As August is an extremely busy month on the farm, more so this year, on account of late crop and short help, the main thing to consider is how best to save as much as we can, with as little hard work and worry as possible. In every case brains should be exercised daily, before any work is done to determine what work is the best to do, and how it may be most easily and satisfactoryily done. Most of us have seen how double running, poor calculations, and shortsightedness have cost us valuable time, energy and money. A ten-minute session in the morning at the desk as to the work of the day, has been found by our best money-making farmers to be most valuable.

General Reminders

Making round stooks and capping them has saved many a farmer's crop in a wet spell.

Barn mows should be cleaned out thoroughly before the new crop comes in.

Power schemes to save labor are many, and many young mechanically inclinde farmers are rigging up useful contrivances.

The earlier the fall wheat land is turned over, the better surety for a crop.

Did you ever try sowing timothy with your fall wheat, and then find that you made considerable out of the timothy seed the next year?

It is a good plan to look around for a successful fall wheat field in your neighborhood to secure your seed.

What about the water supply next winter in the house and barns? It may be well to think of some system of inside service now.

If railway congestion occurs this fall, what about an extra steel or wooden granary now on the prairies farms?

It will pay to wean some of the biggest lambs at the end of this month. A good rape field with grass pasture together is a good spot for them.

If possible arrange to top dress with your manure spreader this fall sown wheat. Some land plaster mixed with each load as it goes out is a good thing.

Perhaps a spraying of the late potatoes with bordeaux mixture will prevent blight and rot.

Keep the turnips scuffled well this month. Their growth next month will be all the better for it.

What about some chicken coops in the cornfield? It will do the chickens good and also destroy a lot of bugs.

Here is a whitewash that will stick and be sanitary for the poultry houses: One-half bushel fresh lime slaked with warm water, being covered to confine the steam; the liquid is then strained through a cheese cloth and eight quarts of salt previously dissolved in warm water is added. Three pounds of ground rice boiled to a thin paste is then stirred in boiling hot. Next a half pound of powdered plaster of Paris and a pound of glue, previously dissolved over a slow fire, are added to the mixture. Finally, add five gallons of hot water. Stir it well and let stand for a few days, being covered to keep out dirt. Apply it hot. One pint of the mixture will cover a square yard and will last for years.

In the Greenhouse

Start tomatoes this month for growing under glass.

Sow cauliflower seeds now for winter growing.

Make cuttings now of English ivy, placing them in small pots set in ashes or in the shade.

Plant the violets that were started in the garden, in the trenches before the end of the month.

Start the Freezia and Oxolis bulbs now for Christmas bloom.

Repot the cala lily now in rich loam, but do not increase the size of the pot.

Sow sweetpeas, migonette, nasturtium and snapdragons now for winter.

In the Vegetable Garden

A final planting of beets will make some good pickles yet.

Blanching of early celery should begin now. Set out late kinds also.

Late Spinach may be sown now if the plot is very rich.

Onions will be ready to harvest the last of August in some places. The proper

Four Saskatchewan boys in a field of Marquis wheat.

time is indicated by the wilting down of the tops.

After the onions are picked, leave them on the ground until dry, covering with straw at night if possible.

Select the best, put in crates with open sides and set in a cool, dry place.

Use Swiss chard when the outer leaves are well grown.

Use Spinach before the flower spikes appear.

Brussels sprouts, kale and parsnips are better after touched with frost.

Early potatoes can all be dug out and the ground replowed.

Among the Flowers

Late August and September is the best time to set out peonies. They like rich ground, but not fresh manure.

Stake the dahlias if in a windy position. Do not water too much.

For cut dahlias, cut early in the morning and strip off the leaves for six inches and the stems placed in water as hot as the hand can bear it and allowed to remain until the water is cool. Then place in cold water in a dark room for 12 hours.

Cut gladioli for table use, when the second flower from the bottom has opened.

Sweetpeas need abundance of water. Do not allow seed pods to form.

Thin the pansies to three inches apart and keep well watered.

The Fruit Garden

Propogate blackberries and dewberries by pinning the tips of the bushes to the ground and covering with soil.

Sow a clover crop on the orchard if not done already.

Cuttings from gooseberries should be made this month. Cut them ten inches long and pack in moist sand ready for planting next spring.

Train dwarf fruit trees this month. Use raffia to tie them. Take care not to break off the fruit spears on apples and pears.

Start a strawberry bed from potted plants if you can get them and the ground is well prepared.

Spraying apples this month with Bordeaux mixture will be beneficial.

Home-made hen house on John Funk's homestead at Mennon, Sask.

AN Imperial Oil tank wagon is a familiar sight in almost every city and town. Unimportant in itself, it is nevertheless an integral part of a great distributing system—a system of interest to you because it has placed within your reach the best in petroleum products at a reasonable price.

AN OIL FOR EVERY FARM MACHINE.

For Gasoline Engines, Tractor, Auto or Stationary.
POLARINE OIL
STANDARD GAS ENGINE OIL

For Kerosene Engines, Tractor or Stationary.
POLARINE OIL HEAVY
IMPERIAL KEROSENE TRACTOR OIL
(Recommended by International Harvester Co.)

For Open Bearings of Farm Machinery.
PRAIRIE HARVESTER OIL
—very heavy body, resists cold, won't thin out with moisture.

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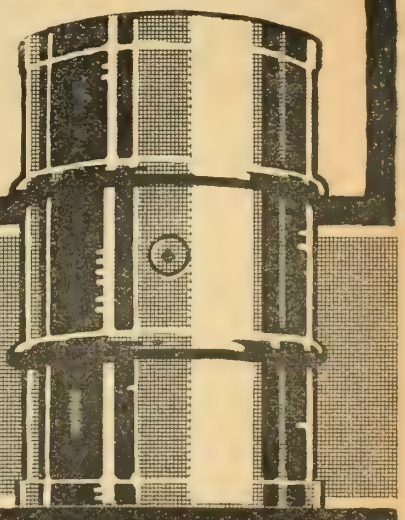
—a thick oil for worn and loose bearings.

For Steam Cylinder Lubrication, whether Tractor or Stationary Type.
CAPITOL CYLINDER OIL
—the standard product for steam cylinder lubrication.

For Grease Cup Lubrication of Bearings.
THRESHER HARD OIL
—a clean, solidified oil, high melting point.

All our oils are supplied in steel barrels and steel half-barrels — convenient, economical. No waste. You use every drop you pay for.



The Imperial Oil Company Limited

BRANCHES THROUGHOUT CANADA

Five Splendid Phonographs

First District Prizes in Bread-Making Contests at School Fairs

IN this announcement we tell you more about the wonderful phonographs and other prizes that proud young girls are going to win this fall by competing at the Rural School Fairs in Ontario. Five splendid instruments and many other prizes are offered for the best loaves of bread baked with Cream of the West Flour. Every girl between 12 and 18 years of age has a chance to win one of these magnificent phonographs. If you want to make your chances better, the way to do is to start right away to practise baking bread with

Cream of the West Flour

the hard wheat flour that is guaranteed for bread

At our big mills in Toronto we have many letters testifying to the superior qualities of Cream of the West Flour. It is to have more people try it, and thus always want it, that we put on this contest and offer such splendid prizes as the Pathe phonographs, books, bread mixers, etc.

The Pathephone—Just imagine the fine times you can have with this splendid phonograph. Your friends will envy you, and gladly drive for miles to hear its wonderful music. Each of the Pathephones we offer (with twelve records) is worth $150.

Just make up your mind to win the phonograph and practise—practise—practise baking with Cream of the West Flour. That's the way to increase your chances. Start right now.

The Pathephone reproduces beautiful songs, band and orchestra music better than any other phonograph does. Besides that, you can do things with it that you could not do with most other instruments.

You know that most phonographs have a sharp steel needle-point that runs in the grooves of the flat record to get the music out. A new needle has to be put in for every record. Instead of the needle the Pathephone has a little round jewel called a sapphire. It never needs changing. Just think of all the trouble this permanent reproducing needle saves!

Pathe records can be played over and over again a thousand times because the round sapphire ball does not wear the record.

The Pathe records that you get with this splendid phonograph prize—a dozen of them—are different from ordinary records, too. They make better music, because the wonderful little sapphire ball-point draws out all the music. The sharp steel needle misses much of the sound. The Pathephone always gets lovely, full, round tone—sweet as a flute. There is less scratching than in other phonographs.

Now you sometimes want to play records that are not like the Pathe records and require needles. To provide for this, there is a special reproducer given along with the Pathephone with which you can use any record requiring the needle-point reproducer. Thus with the Pathephone you can play all records.

Here is a splendid thing. By just pushing a little rod in or out, as required, you can make the music softer or louder.

Again we say, practise baking bread with Cream of the West Flour and build up your chances to win. You can get our flour! If your dealer does not sell it, just write us a letter (address below) and we will immediately reply telling you the nearest place to get it in your neighborhood.

The Campbell Flour Mills Company, Limited

(WEST) TORONTO, ONTARIO

☞ *Keep this announcement for reference*

☞ SEE OPPOSITE PAGE

Eight Hundred Girls May Win Prizes

In Bread-Making Contests at Rural School Fairs

EVEN if you do not win the splendid phonograph described on opposite page, remember that you have lots of chances to win a prize. Any of these attractive prizes, described below, would make it well worth your while to compete.

On the opposite page we described the Pathephone to be given as first prize in each district. Now we come to the rest of the prizes.

SECOND DISTRICT PRIZE—SET OF DICKENS' WORKS

One of the eighteen books in this set is called "David Copperfield," the wondrous story of a poor lad's adventures facing the world. Another book is about "Oliver Twist," whose strange adventures with Old Fagin and other bad men are told in a manner that holds the reader spellbound. All the books of the set are like that—eighteen books, mind you, all beautifully cloth-bound, with gold titles and many pictures.

3RD, 4TH AND 5TH DISTRICT PRIZES—BREAD MIXERS

Instead of using a number of utensils, lifting and kneading the dough several times, all you have to do is to put the ingredients into the Bread Mixer. Then you turn the handle for three minutes. When you take out the dough, you find it is both thoroughly and evenly mixed. The Bread Mixer is as easy to clean as an ordinary pail.

FIRST LOCAL PRIZE—GIRL'S OWN ANNUAL

Fortunate indeed will be the winner of this splendid big 800-page book, whether she be 12 or 18 years of age, for it will intensely interest every girl. It contains dozens of fine pictures, and teems with just the kind of stories you like best. And it gives all sorts of information about flowers, animals, curiosities—everything you want to read about.

SECOND LOCAL PRIZE—STORIES OF FAMOUS MEN AND WOMEN

The most interesting living beings in the whole world are **people**, especially famous women like the late Queen Victoria, Grace Darling, the heroine who saved the sailors' lives; Florence Nightingale, who went to the Crimean War, many years ago, to nurse the poor wounded soldiers. This book tells all about these celebrated women and others. There are many pictures, and the book is beautifully bound.

THIRD LOCAL PRIZE—BRITAIN OVERSEAS

The building up of Britain's world-wide empire was not done without many interesting adventures in strange, far-away lands, with curious people inhabiting them. What could be more interesting than the stories and pictures of the different countries and people that fill this splendid book?

FOURTH LOCAL PRIZE—QUEEN'S GIFT BOOK

Many of Great Britain's most famous writers and artists wrote stories and poetry and made pictures for this book. Queen Mary gets all the profits this book makes, and with it she helps disabled soldiers.

Here are the Conditions of the Contest---Read them Carefully

This is the way we conduct the contest: We have divided the Province into five districts, each with several counties. (See list of districts below). In each district we give one of the five phonographs, one of the sets of Dickens' Works, and the Bread Mixers. These are called the District Prizes. To try for them you compete at your local rural school fair. If you win the first prize there, you then, without any further work on your part, automatically become a competitor for the Pathephone and the other District Prizes. Read these conditions carefully.

Every girl may compete at the rural school fair in her district, whether or not she attends school, providing that her 12th birthday occurs before November 1st, 1917, or her 19th birthday does not occur before November 1st, 1917. One loaf of bread must be submitted baked in pan about 7 x 5 inches and 3 inches deep, and divided into twin loaves, so that they may be separated at the fair. The loaf must be baked with Cream of the West Flour. One half will be judged at the fair. The other half of the prize loaf will be sent to Ontario Agricultural College, Guelph, to compete in the District Contests of Breadmaking and Flour Testing. The judging will be done by Miss M. A. Purdy, of the Department of Breadmaking and Flour Testing. The local contest at the fair will be conducted under the same rules as all the other regular contests at your fairs.

THE STANDARD by which bread will be judged will be as follows:—

1. Appearance of Loaf ..... 15 marks
   - (a) Color ..... 5 marks
   - (b) Texture of Crust ..... 5 marks
   - (c) Shape of Loaf ..... 5 marks
2. Texture of Crumb ..... 40 marks
   - (a) Evenness ..... 15 marks
   - (b) Silkiness ..... 20 marks
   - (c) Color ..... 5 marks
3. Flavor of Bread ..... 45 marks
   - (a) Taste ..... 25 marks
   - (b) Odor ..... 20 marks

IMPORTANT.—Each loaf must be accompanied by the part of the flour bag containing the face of the Old Miller, and an entry form must be signed by the girl and parents or guardian, stating date of birth, P.O. address, and giving name of dealer from whom Cream of the West Flour was purchased. The form will state that the girl actually baked the loaf entered in the competition. The forms will be provided at the time of the fair. The decision of the judges is final. Not more than one entry may be made by each girl and not more than one local prize will be awarded to the same family.

WHICH DISTRICT IS YOURS?—This list shows you which counties you compete against if you become a competitor for the District Prizes:—

District No. 1.—Counties of Glengarry, Stormont, Dundas, Grenville, Leeds, Frontenac, Lennox and Addington, Carlton, Lanark and Renfrew.

District No. 2.—Counties of Hastings, Prince Edward, Peterboro, Northumberland, Victoria, Durham.

District No. 3.—Counties of York, Ontario, Peel, Halton, Wentworth, Oxford, Brant, Waterloo.

District No. 4.—Counties of Welland, Haldimand, Norfolk, Elgin, Kent, Essex, Lambton, Middlesex.

District No. 5—Counties of Bruce, Grey, Dufferin, Simcoe; Districts of Muskoka, Parry Sound, Timiskaming, Algoma, Sudbury, Manitoulin.

THE RESULTS of the contests at the fair will be made known in the usual way, as in the case of all the other regular contests. The District results will be announced as soon as possible after the conclusion of the Rural School Fairs in the Province.

DO NOT MISS THIS GREAT OPPORTUNITY.—Every girl between 12 and 18 years should compete. What a splendid way to stir up increased interest in bread-making! Get a supply of Cream of the West Flour at your dealer's and practise using it as often as possible to increase the chances of winning. If your dealer cannot sell it to you, write to the Campbell Flour Mills Co., Ltd., Toronto, and we will tell you the nearest place to get it.

NO COMPETITION IN COUNTIES NAMED BELOW.—The competition is open to all parts of the Province where Rural School Fairs are held, except the Districts of Rainy River, Kenora and Thunder Bay. These districts are the only parts of the Province where school fairs are held by the Department of Agriculture in which this competition will not be a feature. There are no district representatives of the Deparment of Agriculture in the Counties of Huron, Perth, Wellington, Haliburton, Prescott, Russell or Lincoln, and no rural school fairs are held in these Counties by the Department of Agriculture. There are, however, a few local school fairs held in these seven counties, and we are opening the competition, to these fairs. We will announce later the districts in which each of these Counties will be included.

The Campbell Flour Mills Company, Limited

(WEST) TORONTO, ONTARIO

(SEE OPPOSITE PAGE)

FARM BOOKS THAT HELP

Keep adding to your library a few good works about your business. The following books will be sent postpaid to you upon receipt of the prices named

Shorthorn Cattle
By Alvin H. Sanders
Editor Breeders' Gazette
The leader for breeders of Shorthorn cattle in America, with a history of the British work.
$2.10, postpaid; half leather, $2.60.

The Story of the Herefords
By Alvin H. Sanders
A companion volume to the one on Shorthorns and represents the latest in the Whitefaces.
$2.25, postpaid; half leather, $2.60.

Alfalfa in America
By Joe E. Wing
The full story of the growing, cultivation and curing of this great hay crop.
$2.00, postpaid.

Swine
By Geo. E. Day
Prof. of Animal Husbandry at the O.A.C., Guelph.
330 pages, with 75 illustrations, descriptive, and treats of breeding, management, marketing and disease. Lippincott Series.
$1.60, postpaid

Horses
By Carl W. Gay
of the University of Pennsylvania.
Covers, structure, types, principles of breeding and horse in service. Lippincott Series.

Feeds and Feeding
By Henry
The standard book in America for feeders of livestock. A new, revised, up-to-date edition is out.
$2.50, postpaid.

Vegetables
By John W. Lloyd
of the University of Illinois.
It places vegetable gardening on a safe and sure basis. The book for money-making, business farmers.
$1.60, postpaid.

Farm Dairying
By Laura Rose
A Canadian book by a Canadian writer on the subject.
$1.35, postpaid.

Sheep Farming in America
By Joe E. Wing
368 pages and treats fully the whole subject.
$1.10, postpaid.

Poultry Breeding
By Miller Purvis
A thoroughly reliable and informing work for the farmer or specialist.
$1.10, postpaid.

The Modern Gas Tractor
Its Construction, Operation, Application
A Practical Treatise
Written by Victor W. Page, .S.A.E.
Covers every branch of up-to-date Gas Tractor Engineering, Driving and Maintenance in a non-technical manner. Very well illustrated. Over 500 pages. Describes design and construction of all parts, their installation and adjustment, as well as practical application and use of tractors. Every farmer should have this book.
$2.00, postpaid.

THE FARMERS' MAGAZINE
143-153 University Ave., TORONTO

Honey, Bees and Birds

Enemies of Bees

Our chief enemy of the bee is the wax moth. This is a small, grayish moth which lays its eggs in cracks or crevices in or on the hive. The larvae find their way to the wax, where they tunnel through the comb, spinning a web after them. This ruins the comb for further use by the bee, and if unchecked, they will ultimately take possession of the hive.

To prevent this trouble, keep the colonies in a strong condition. It is only the weak stands that are attacked. If the colony is strong, all intruders are kept out.

In treating infested hives, remove the bees by shaking them into a new hive. Then tier the old ones one above another and on top place an empty hive or super. In the latter, place a saucer containing carbon bi-sulfide; put the lid in place and do not disturb them for twenty-four hours. This treatment does not destroy the eggs, so the operation should be repeated at intervals of two or three weeks, until all eggs have hatched.

Detecting a Queenless Colony

A queenless colony can be detected from outside as easily as from inside appearances, except in autumn, when it is rather difficult to do, says an expert writing in the *Irish Homestead.* The bees become restless almost directly after a queen is removed from the hive. They can be seen running about in all directions in front of the hive and on the alighting board, flying a few feet from the hive, and at once returning again; you can see they are searching for something which they cannot find. These proceedings will last for a varying period, and are more noticeable when all other hives in the apiary are quiet. In the event of there being plenty of eggs, or young larvæ, in the hive, they will not continue their search for any considerable time, but will commence making queen cells and rearing another queen, or perhaps several; but when they have no chance of rearing another, they are uneasy for the rest of their existence, unless one is provided for them, and search round the entrance of the hive for days. An air of laziness pervades the hive; little or no work will be done; pollen is rarely carried in, or, if at all, in only very small quantities, the pellets being about a quarter of their normal size. The bees, instead of flying from the entrance with a quick dart, crawl forth listlessly through the entrance, take just a little turn round, and then go back again; there is no rushing or tumbling over each other on returning with a load, as is the case with a colony in a normal state. In fact, a drowsy, sleepy look seems to settle on all the community. Queens sometimes die naturally; this is more frequently the case in the winter, and this is easily detected, as the absence of the brood when the hive is opened in spring is an unfailing sign. The loss of a queen in late summer can be frequently discovered by the colony allowing the drones to live, and they will then tolerate their presence in the hive all through the winter, if they are allowed to remain queenless. Watch your hives sharply for a quarter of an hour or so on the next fine day when the bees are working well, and if you see some of them return with full size pellets of pollen to both hives you may take it for granted that each hive has its queen. But if you see no pollen coming in, look out for it again for a few fine days longer, and then if it is only carried into one hive you can safely unite your colonies without making any search for the queen. Pollen has been carried into every hive in our apiary every fine day for the past month. As pollen is gathered in greater quantities in the morning than during any other part of the day, between 9 and 10 a.m. would be the best time to look out for it.

Bees in Evergreens

"Recently I was in a district where there are many large Norway Spruce trees," writes a subscriber. "And I was attracted by the buzzing of bees in them, one would think there was a swarm overhead but on examination, I found them thick on the new green needles. Now what I would like to know is, are there flowers on these trees where the bees get pollen or was it moisture they were after?"

(Perhaps some subscriber, who is a beeman will be able to answer.—Editor.)

Little Patriots of the Air

All over America everyone who can do so is being urged to plant and to raise during the present season as much as possible of fruit and grain and vegetables. It is a patriotic duty, a work to be done not only for the men, women, and children in other countries, suffering through a shortage of food, but for animals as well, who are usually the first to be deprived of their proper rations. In this great work boys and girls will take an active part, and theirs will be a splendid service for their country's welfare.

How many of us have given a thought about the birds and how much they will help us to be successful as they busy themselves in destroying myriads of the enemies to the growing crops? Let us not forget or overlook the usefulness of these little friends of man; how great will be the measure of their help to the farmer and how large the increase in the harvest through their co-operation with him.

If you are cultivating potatoes, bear in mind that the grosbeaks and the bobwhites are your partners, if you are so fortunate as to have them in your neighborhood, and that they will destroy vast quantities of potato bugs. Consider that

the robin, bluebird, veery, brown thrasher, phœbe, and meadowlark will aid you greatly in preventing the cutworms from destroying your plants, and remember that there are scores of other birds probably in your vicinity, who from dawn to dusk are keeping down the ravages of insect life. Make the birds your friends and helpers, encourage them in all possible ways, and our country and the whole world will be the better thereby.—*Dumb Animals.*

The Killdeer

One of the most characteristic bird notes around the ponds and lakes is the monotonous, oft-repeated call of the killdeer—a shrill, high-pitched, and persistent repetition resembling the words "Kill-dee, kill-dee," from which the bird takes its name, says R. B. Rockwell in *Dumb Animals.* Even the coming of darkness does not still this ever-present chorus, and while the other birds are sleeping, often out of the darkness, all through the night, comes the plaintive cry, "kill-dee, kill-dee."

The birds are very common throughout the greater part of the United States, frequenting the sandy beaches or the mud flats of prairie lakes and ponds.

The nests—if such they can be called—are mere depressions scraped in the bare sand, usually without any vestige of lining, in which are deposited four peculiar, pear-shaped, clay-colored eggs, almost the exact color of their surroundings, wonderfully splotched with fantastic markings of dark brown or black.

The young are beautiful, delicate, little downy creatures, with long legs; and have the surprising faculty of running about and even swimming within an hour or so after hatching. Their note is a tiny imitation of that of the parent, yet withal remarkably strong and clear for such a diminutive creature. As the nests are usually placed in very exposed positions, the parents have the interesting habit of removing the tell-tale egg-shells as soon as the young are hatched.

The birds are migratory and have no injurious habits of any kind; yet sad to relate some alleged "sportsmen" (?) imagine they are game birds, and many are killed under this misapprehension, although the tiny bodies hardly make one good mouthful of food, and the bird does not exhibit any of the "gamy" peculiarities of the so-called "game-birds." It is to be hoped that these birds will soon be accorded the full protection under the law to which they are entitled.

The black fox making friends of a youngster on a Middlesex farm.

Silver Gloss Starch

For nearly 60 years, Edwardsburg "Silver Gloss" has been the standby.

Guaranteed not to injure the finest fabric.

Manufactured by THE CANADA STARCH CO. LIMITED, MONTREAL.

FOR HOME LAUNDRY 35

"Astonishing how my

Strength and Fitness

came back," says Mr. Inman, a Winnipeg business man, cured by Dr. Cassell's Tablets.

"It was astonishing how my strength and fitness came back," says **Mr. G. C. INMAN, of 330, HARCOURT STREET, STURGEON CREEK, WINNIPEG,** for many years a well-known man in the business life of Canada. Mr. Inman continues: "It is about three years now since I first used Dr. Cassell's Tablets. I was terribly run-down and weak. Sometimes I felt I should have to leave off altogether, my work was such an effort to me, I ate little, I had no appetite, and I suffered if I forced myself to eat.

"My nerves of course were in a bad way, and my sleep very disturbed. Everything, in fact, pointed to a nervous breakdown. It was then a friend told me about Dr. Cassell's Tablets, and I got some to try. The first result was that I could sleep at nights, and then my health rapidly improved. It was really astonishing how my strength and fitness came back.

Mr. G. C. Inman.

"I may add that some time ago my mother was very ill with pernicious anæmia. I urged her to take Dr. Cassell's Tablets, but she would not, so I crushed them down and gave them in food without her knowing. She was confined to bed before she had the Tablets, and now is about again well and bright."

Mr. Inman is now in England having had to return there some little time ago to take control of the well-known firm of A. W. Inman and Son, Printers and Publishers, Leeds. Letters will reach him there.

Dr. Cassell's Tablets

FREE SAMPLE.

On receipt of 5 cents to cover mailing and packing, a generous free sample will be sent at once. Address: Harold F. Ritchie & Co., Ltd., 10, McCaul-street, Toronto.

Dr. Cassell's Tablets are Nutritive, Restorative, Alterative, and Anti-Spasmodic, and the recognised remedy for

Nervous Breakdown	Sleeplessness	Mal-nutrition
Nerve Paralysis	Anæmia	Wasting Diseases
Infantile Weakness	Kidney Trouble	Palpitation
Neurasthenia	Dyspepsia	Vital Exhaustion

Specially valuable for nursing mothers and during the Critical Periods of life.

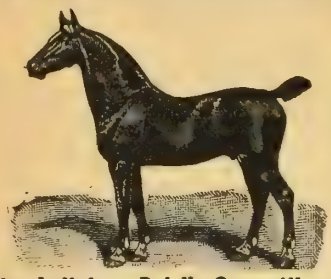
Sold by Druggists and Storekeepers throughout Canada. Prices: One tube, 50 cents; six tubes for the price of five. War tax, 2 cents per tube extra.

Sole Proprietors: Dr. Cassell's Co., Ltd., Manchester, Eng.

Warranted to Give Satisfaction.

Gombault's

Caustic Balsam



Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

The Lawrence-Williams Co., Toronto, Ont.

HYLO SILO

Sweet Fresh Ensilage
down to the last forkful

THE HYLO SILO is perfectly air-tight. No frozen or spoiled ensilage around the walls. Convenient and perfect fitting doors, adjustable without hammer or wrench. Made of Guaranteed Long Leaf Yellow Pine. Built to last a life-time. Stands rigid when empty.

Write for prices and catalogue.
AGENTS WANTED.

Gilson Mfg. Co. Ltd. 415 York St. Guelph
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THE C. P. R. GIVES YOU TWENTY YEARS TO PAY

An immense area of the most fertile land in Western Canada for sale at low prices and easy terms ranging from $11 to $30 for farm lands with ample rainfall—irrigated lands up to $50. One-tenth down, balance if you wish within twenty years. In certain areas, land for sale without settlement conditions. In irrigation districts, loan for farm buildings, etc. up to $2000, also repayable in twenty years—interest only 6 per cent. Here is your opportunity to increase your farm holdings by getting adjoining land, or to secure your friends as neighbors. For literature and particulars apply to Allan Cameron, General Superintendent of Lands, Department of Natural Resources, First Street East, Calgary, Alta.

Business of Farming

Fallwheat in Old Ontario

"It's time that more was being said about wheat growing in old Ontario. The West is a great country for wheat, I know, but look at this." And what I was asked to look at was a field of wheat in Eastern Flamboro that afterwards harvested grain at the rate of forty-five bushels to the acre. On an adjoining farm the farmer reaped wheat that yielded forty-seven bushels to the acre. Still another farmer of the neighborhood had a field that yielded forty-nine bushels to the acre. This spring in one township adjoining Toronto there were six farmers who had wheat still in their possession amounting to about two thousand bushels. All over the province there are good fields of which the government report men do not seem to be aware but of whose presence the owners are fully cognizant.

In the old days when farmers were not fully aware of the value of feeding grain, no doubt many of them cropped their farms till they were grain poor. Under such conditions it was not to be wondered at if the wheat crop proved a disappointment. But the conclusion that Ontario was not adapted to wheat growing was not warranted by the facts.

The farmer who follows a five or a seven year rotation should have no difficulty in growing wheat, particularly if he gives beans a place in rotation. Of course if peas can be grown the bean crop is not so important. A field that has been pastured and well broken, if rich in humus, makes a good seed bed.

One of the best fields of wheat in sight this year is sown on potato and pea land. This field had yielded a good crop of timothy and clover and lay unbroken till the spring of 1916 when it was plowed and put down to peas and potatoes. The land was carefully plowed, well wrought up and this spring it was given a thorough harrowing and rolled. Golden Coin is the variety sown. Despite the heavy rain early in July that beat down a good deal of the barley and other crop of the neighborhood, this field kept upright to a most gratifying extent. The field is a rich clay loam sloping to the East. The seed was sown at the rate of two bushels to the acre.

Results in the wheat crop depend a good deal upon the seed sown. And right here is where care must be exercised. The farmer who was discovered the variety that gives satisfactory results on his farm should rest content with that variety, but he should do all that he can to work that variety to the limit. First of all he should consider the average quality of the soil in the field he intends sowing. He should next consider the part of the field that is already in crop that comes nearest to the average soil in the field that he intends sowing. From this part of the field he should set aside a sufficient amount of grain for his seed and carefully screen it, and, if possible, handpick the seed he proposes to sow. This is a process that requires a good deal of hard thinking and close observation, but this is one of the important features that marks the difference between success and failure. In this regard the farmer will find the seed plot planted in ideal conditions a first rate thing to avoid. It is grain that shows its superiority to other grain grown under the same conditions that is likely to have the highest vitality and likely to prove the best moneymaker. Uniform success in wheat growing generally follows upon a combination of good drainage, good soil, seed adapted to the soil and a whole lot of gray matter in the farmer.

Farmers who exercised a little patience this year before plowing up fall wheat that looked a little backward last spring have been rewarded by having a surprisingly fine crop this harvest. The selling price is good and the crop has been an all round profit bringer. Besides, every bushel is needed to feed our men in the field. This fall every acre available should be sown as there is no reasonable prospect that the demand will be less for the next year's crop. The producers may bank on a brisk demand. The world's stores of wheat are exhausted and a bumper crop will hardly be sufficient to meet the need. Alongo Brown

Seed Selection

The farmer who has a line of oats or barley or corn or other crop that gives him good results will do well to make a selection therefrom of seed for his next year's crop. In making this selection he must be careful to avoid mistakes that seem to be in the line of doing the right thing. The mistakes may have been made last spring or at the time of planting. For instance he may have secured seed from a specialist in that line. This grower may have taken special pains to develop a specially fine article by growing the seed under special conditions of fertility or spacing. The farmer may have procured some of this seed and this summer is finding himself disappointed. He may have concluded that he was taken in, whereas the truth is that he made a mistake in procuring seed of this character. Or the farmer in pursuit of seed may be looking at the most highly fertile part of his field and be concluding that he will make use of the best part of the field for his seed patch. He may find that the finest oats are on a part of the field that has a relatively thin crop of straw, or he may may make his selection from the part of the field adjacent to the edge of the field.

Still another mistake may consist in his growing some grain for seed in a patch specially fertile and specially sown. From this patch he may secure a product of corn or grain or other seed that

is very fine for show purposes but which is likely to prove disappointing for seeding purposes.

The farmer will find that he is in accord with the laws of production if he will make a seed selection from the part of his field that is representative of the field both as to yield and fertility and other conditions. He must be careful to make his seed selection from grain that grows in competition with other grain in the same field. The special seed plot may prove, indeed experience has proven it already, a delusion and a snare. The average farmer will do well to give it a wide berth. The experimental plot is another story. The plants that do the best in competition with other plants in the same field show that they have the highest vitality and give promise of producing seed of high vitality. This grain so selected should be allowed to mature fully and should be harvested carefully and from this grain a handpicking will furnish seed that will give good results when sown as seed. In other words selection pays. Andrew Kyle.

Sprouting Potatoes Under Glass

The gardener or farmer who wishes to make a little money out of quick-grown potatoes will find the ordinary hot bed sash of immense help in this regard. The method is to secure some soil that is rich and loamy but not sticky and place this under glass to a depth of about six inches. The potatoes are cut into sets as for regular field planting and covered about one and a half inches deep and left to grow. The ground should be kept moist, and, during the cold days or nights, the glass should be covered with burlap or some such material. As the sun gets down to business the potatoes will rapidly sprout and by the time the ground in the field is warm they will be three or four inches above the ground. About twelve hours before planting the ground under the glass should be thoroughly soaked. On the day for planting the field the potatoes are lifted and taken to the field immediately. There they are planted about fourteen inches apart and about five inches deep. If before they are planted in the field they are dipped in water they will continue to grow as if they never had been removed. The farmer who has good potato soil will find this method of handling the tubers a real money maker. Wideawake and practical farmers have adopted this method with the most gratifying success. The practice does not involve as much labor as the inexperienced may think. J. D.

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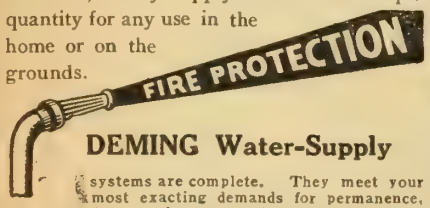

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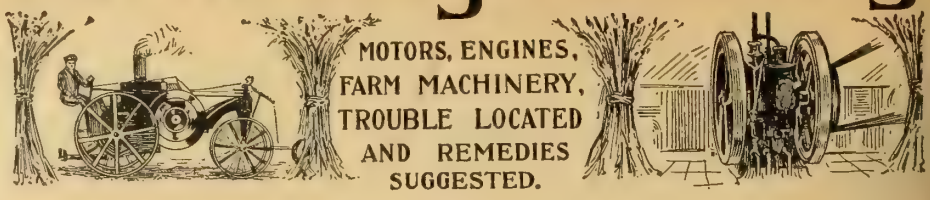


The Tractor At Freemont

The biggest tractor show last year in the United States took place at Freemont, Nebraska. This year the show begins August 6th, and lasts till August 11th, or later. This year the interest in tractors is greater than ever, and it looks as if all tractor shows will be red hot affairs.

Oil Often Unless in Sand

If the binder is being used on a dry, sandy soil, or where the main wheel throws a gritty dust over the main frame parts, it is better to run the exposed surfaces of the chains and gears dry, than to oil or grease them. Dry flake graphite makes an excellent lubricant for these parts under such conditions; some operators use ordinary stove polish with good results.

Troubles of the Grain Binder

In order that the elevator canvases of your binder may run smothly and elevate properly with the minimum of power, the elevators should be square—that is, the rollers should be perpendicular to their supports. If the two diagonals of an elevator are equal the rollers must form opposite sides of a square or rectangle; hence, a good method of testing for squareness is to measure the diagonals with a stick or string.

If the lower elevator is not square, it may be possible to adjust it by the braces which extend from the main wheel brackets to the front and rear elevator supports. The upper elevator can usually be squared by the adjustment in the casting which attaches the rear support to the gooseneck. Canvas creeping and canvesslat breaking often result when the elevators are not square; but, of course, these troubles may also be due to the front edge of the canvas being buckled tighter or looser than the rear edge.

If an elevator roller binds at both ends it is evident that the proper distance between its suports is not maintained; adjustment of the tie rods between the supports will remedy the trouble.

If a roller binds at the sprocket or gear end only, its box at that end is either wrongly placed or the correct box is not being used at that point. —C. O. R.

Extra Uses for Machines

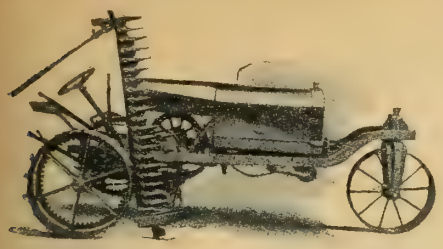
One trouble the farmer is up against is that there are too many machines where otherwise some conversion might be adopted whereby sets of wheels, frames, etc., would not be duplicated. When an investment happens to be large and the period of its use short, another adaptation of the machine, is that much saved. The manure spreader, which is so useful on the farm, can be used for hauling and unloading turnips, hauling potatoes, or taking in corn, by removing the cylinder from the box and putting in a suitable end board.—J. B. A.

How N. Y. Works Tractors

The New York State Food Commission has about 40 tractors at work in some 20 counties of the State, says the *Rural New Yorker*. These machines are not sent to individuals but there must be a group of farmers—representing at least 150 acres

The business of threshing is first looked upon by the young farmers as a delightful co-operative exchange of work, but the older one gets the less eager he is to "go threshin'" to his neighbor's. This is a picture of the average threshing help in Western Ontario.

of land to be plowed—before the tractors can be had. The Farm Bureaus usually have charge of the work. Many of the tractors were delivered too late to be of



A gasoline - driven mowing machine which is said to do twice the work of the horse-drawn machine and at a low cost.

much service in preparing land for Spring planting, but they will do their full share in making ready for Fall grain, filling silos and similar work. There are three types of tractors at work, and they will be tried under various conditions—large and small fields, wet land and baked soil, level fields and hills, smooth soil and rocky. The plan is to use them if possible wherever horses go and make full records of their behavior. If this work is well done we shall have, by Fall, just the information our farmers need about buying a tractor. It is only through such careful work that the facts can be brought out. No doubt about it—we have come to a time when the Eastern farmer must make use of all the aids which modern power can give him. He must know what he is doing before he invests his money in expensive machinery. There would not be much excuse now for a man who invested heavily in the wrong breed of dairy cows because the facts regarding the different breeds have been well worked out. The facts about tractors and their work ought to be made just as clear.

Poultry and the Auto

An automobile can no longer be considered a luxury for the poultryman and small farm operator, it is a necessity and far more economical than keeping horses, says Dr. Woods in *The American Poultry Journal.* It means reaching the market quickly and easily and the saving of much time. We used to keep a ig black mare to do our work, but she actually cost us more per year than does an automobile and the machine does a very much greater amount of work. We can, even at present high prices of man and horse labor, hire horse work, like plowing and harrowing or hauling wood, and still be ahead on what it used to cost us to keep the horse. Some day we hope to have a small tractor and outfit to do the farm work. When you sum it up, horse work is an extravagance and altogether too wasteful as compared with machine work. Experts have estimated that it will take the full yield of hay and oats on ten acres to feed a pair of heavy farm horses, and the wheat from that same ten acres would keep thirty people in bread for one year. We like a horse, but it looks as it a horse is decidedly a luxury in these times.

Curing Poison Ivy

A very simple remedy for poison ivy is to rub catnip leaves on the affected parts and never to bandage them.

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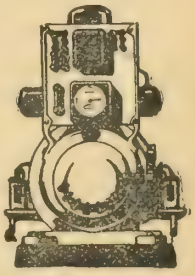

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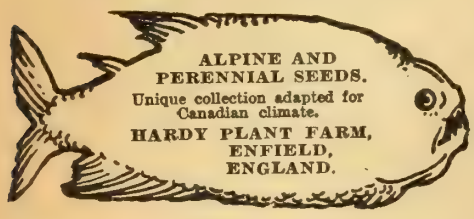

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The Strawberry Patch

A well-kept strawberry patch is not only a source of profit to its owner but a source of table enjoyment that only those who have partaken of really appreciate. At fifteen cents per box the patch pays beyond anything that one could expect. Yet at that price the average farmer hesitates to use berries as a staple unless he has had the good management to have a good patch of his own. Sold along with Spinach or early beets and early carrots and early potatoes, the strawberry makes up a market load that is eagerly sought for and bought at paying prices.

And the care of the patch is not a difficult matter. As soon as the last picking for the season has been made the old patch should be gone through and thoroughly weeded. It is good practice to watch for the first shower that soaks the ground and when the ground is soft to pull as many of the weeds as possible. Of course the waiting should not continue till the weeds have gone to seed. The patch should then be clipped off with scythe or mower. The whole patch should then be liberally dressed with manure in which all weed seeds have been germinated. If the rows are not over thick it is best to plow between the rows with a plow with a sharp share in order that all the weeds may be cut. The rows should be gone through with a sharp hoe and spud till not a weed is left in sight. After freezing up in the fall the patch should be covered to a depth of three or four inches with straw that has been shaken till all weed seeds have been removed. If a second or even a third hoeing can be given before freezing, all the better, but one plowing and one good hoeing usually will suffice. As a rule it is a mistake to try to get more than one crop from any patch.

In the case of the patch that has yielded two crops it is advantageous to treat with dressing and manure as indicated for the patch to be left to bear a second year. If, however, the berries are harvested early in the year and there are some sprouted potatoes on hand of an early maturing variety, and the patch is located where the land is well drained and well sunned a planting of potatoes may be made with good results. If there is much in the theory that seed potatoes should not be fully matured, this planting may prove just the thing for the seed potato patch. If the owner does not wish to make this planting he will get good results by allowing the patch to remain till fall and then to plow deeply and carefully. This ground will be in ideal condition for a potato crop for the following year.

Where wood ashes are available, it is good practice to give the whole field a liberal sprinkling either late in the fall or early in the spring.

A paying crop of strawberries is the result of hard thinking and attention to business. No crop will better respond to good treatment than the strawberry. It does not require a great deal of attention but such as it requires it must have or it will not pay and will get even by dirtying the land. A. J.

A Bulletin on Pears

The Pear in Ontario is the title of a well written and well illustrated bulletin by F. M. Clement and O. J. Robb. Since Canada imports from a quarter to a half million dollars' worth of pears annually besides consuming the most of her own crop, more attention should be paid to this fruit. The chief objection laid by Ontario farmers to the raising of pears, has been the lack of paying markets. Very little is given in this bulletin to this side of the case, but this lack in no wise detracts from its usefulness in giving information about production.

Summer Pruning of Apples

The experiments that are being conducted at Vineland Station in the Niagara Peninsula, as to the relative values of winter and summer pruning, go to show that summer pruning produces more fruit and also better trees than winter pruning. E. F. Palmer reviewed the work in a recent issue of the Ontario Government's monthly Fruit Branch Circular. Here is his summary of the fruit produced on the young trees in 1916:

Method	No. of Trees	Ttl. Weight of Fruit.	Ttl. No. of Fruit.
Unpruned	207	3,260	14,416
Winter pruned ..	228	227	781
Summer pruned ..	209	1,820	7,169

It is probably too inconclusive a test to draw too sweeping conclusions from this experiment, yet the results are so striking, as he says, to warrant more than ordinary attention.

The Parson's Strawberry

Some growers at Niagara Falls are enthusiastic over the Parson's Strawberry, which was introduced into the section from Maryland.

Questionable Value of Some Remedies

Fruit growers should not allow themselves to be influenced to purchase proprietary compounds that are being advertised for the control of insects and plant diseases without first consulting with the men at the Experiment Stations.

Women's Organizations

By GENEVIEVE

Practical Saving of Food by Canning

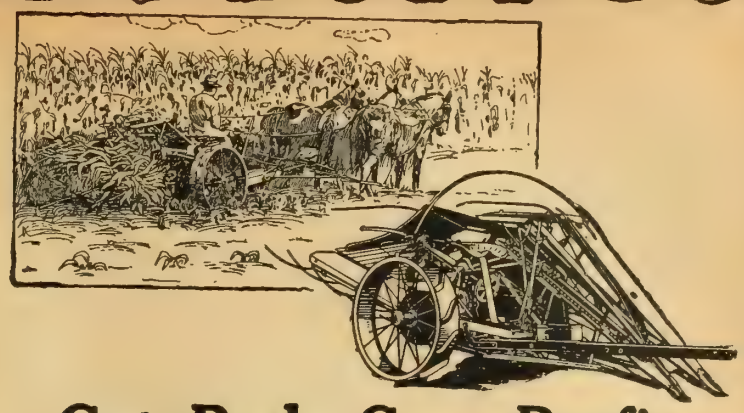
The campaign to stop food wastage is receiving valuable support from many women's organizations which are devoting special attention to canning. The canning of fruit is a known art to the majority of housekeepers but to many the canning of vegetables and meats is something new. Where an organization takes up the study of this work the usual result seems to be that the whole community is set acanning. Sometimes where there is a woman in the neighborhood who is an expert canner, it is possible to get her to come to a meeting in the church, school, hall, or some home kitchen, bringing samples of her canned fruits, vegetables and meats, and telling just how they were done or actually demonstrating the process. An address of this kind was recently given in Orillia with two hundred and fifty women present. The Institutes branch of the Ontario Department of Agriculture is prepared to send out canning demonstrators to any part of the province where the people want one, and the number of applications already sent in show that the women who are busiest with their homes and Red Cross work, consider this a practical and important part of the year's work.

The Women's Institute and Community Co-operation

The Institutes in Perth county, Ontario, show a fine spirit of community co-operation. Six of the Institutes have bought knitting machines, as they find that with one of these a woman can turn out a sock in fifteen minutes. Two women can do the machine work and the others do the "toeing off" by hand. The Institute uses the machine for Red Cross knitting for two weeks in each month and for the rest of the time it is let out to individual members for private use. One woman with six children already has her knitting done for the winter. One Institute has a vacuum cleaner for the use of the members. Another bought a set of dishes which it loans for any good community use from a church support to a barn raising.

Some Figures From Ailsa Craig Institute

The year's financial statement of the Ailsa Craig Women's Institute, shows that Red Cross supplies and Field Comforts, socks, shirts, pyjamas, quilts, bandages, etc., have been given by the institute to the value of $1,980. The institute bought and made up into socks and garments $992 worth of yarn, flannel and cotton. In addition to this the girls in the institute made between seven and eight hundred scrap books to be sent to the trenches, and goods were donated to make up fifty-four Christmas boxes. Clothing was also collected for the Belgian Relief. The members of the Institute are to be congratulated on such a report.



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Furthermore, it is easier and cheaper to save stover than to waste it. A **Deering Corn Binder** cuts five to seven acres a day, cuts it at just the right time to get the greatest feeding value out of the stover, saves the wages and the trouble of getting two or three extra men and puts the hard work where it belongs, on the tractor or horses.

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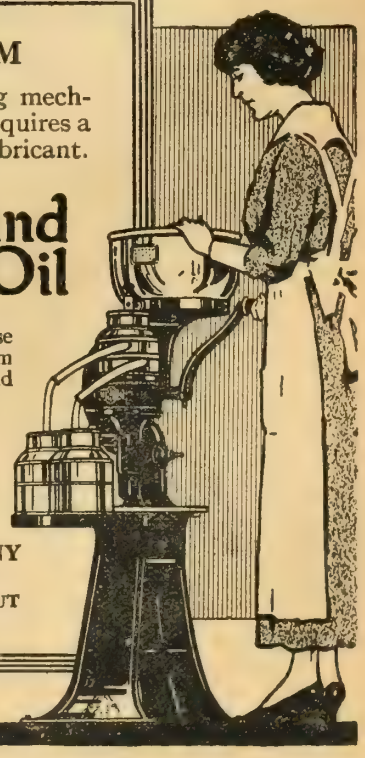

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Profitable Greenhouse Vegetables

The subject of vegetable culture under glass should prove an important feature this coming winter. Forced vegetables will always find a ready market, at high class hotels, clubs, and the leading stores. One of the most profitable crops to grow is the Dwarf French Green Bean. Salads cannot be too highly recommended. While parsley for garnishing purposes, rhubarb, mushroom, and even forced mint, and spinach, will give the small holder, or the market gardener good returns. These come under the heading of luxurious vegetables, mostly for the wealthy class.

FRENCH BEANS.

The mode of culture is very simple. Large pots or boxes are to be prepared, allowing plenty of cracks for drainage. On top of this some well decomposed manure should be put. The soil should consist of good chopped fibrous loam, incorporating decayed manure with an addition of coarse bone to keep the soil porous, and to encourage healthy, vigorous roots. A very important operation is filling the pots or boxes. Only half fill them with soil, allowing the remainder for top dressing at intervals. The first filling of soil will be sufficient to allow the bean to develop and to give the first picking. The top dressing then will allow the crop to make fresh growth with abundance of young beans. At this stage liberal supplies of manure should pe given the crops as they are gross feeders. A dressing of blood manure in a dry state can be stirred in the surface of the soil. These all help to bring the crop to a marketable value. The sunrise Dwarf French Green Bean is undoubtedly the most valuable for winter work. As they advance in growth, some sticks should be inserted in the soil to give them support. September is a good month to make the first sowing. And sow every month throughout the winter to keep up a supply.

PARSLEY

This is a valuable crop. And the Moss Curled or Emerald Green will add to swell the grower's weekly income. Generally market gardeners grow parsley outdoors and fail to realize the value of it for winter work. At Christmas-time a large quantity is used in the stores to decorate the store window. In the hotels and clubs it is wanted as fresh as possible for garnishing purposes. September is a good month to lift a large quantity out doors, and after trimming the root and the old foliage with a sharp knife, it can be planted in beds in a greenhouse, or in deep boxes and placed on a shelf near the glass. Parsley will soon establish itself to artificial condition by keeping the roots moist, and the foliage sprayed 2 or 3 times a day.—H. F. East.

Keep the Garden Moving

Few farmers are aware of the value of liquid manure as a real profit maker in the garden. Not till this mode of fertilizing has been put to the test will any farmer realize the asset he has in this farm product that will do more for his garden than anything else he uses. On most farms liquid manure is available every day the vegetables are growing. Scarcely a farmyard but has its pool of this liquid that is worth more than fifty dollars per ton when it is judiciously employed.

The best method of applying the liquid is to dilute it by adding about an equal portion of water. If the liquid is very heavy one third of the liquid may be used to two thirds of water. Care must be taken to keep the liquid off the plant leaves as if the liquid proves to be rich it may "burn" the little leaves. Indeed, if the liquid is very rich it may injure the roots of the plants. Hence the necessity for liberal dilution.

Again and again the situation of a root field has been saved by the addition of this fertilizer. When the cultivating has been done a couple of barrels are prepared for this work by fitting them with inch or inch-and-a-ahalf bungs to which are attached spouts reaching to within three inches of the ground. These barrels are placed in the back of the farm trucks, filled one third or one half with liquid manure and then the barrels filled with water and the trucks driven carefully along the drills. If there is enough time to go over the entire patch, so much the better. If there is not enough time for the whole patch the percentage of the yield will be increased indefinitely by giving the knolls a thorough treatment. Those who have formed the habit of thus helping out their fields find it hard to understand why their

neighbors do not avail themselves of this means of increasing their garden and field profits. One application of this dressing will show its effect in less than ten days. It seems a pity to see a fine garden or root crop stopping short of the point of the highest profits when an hour's work expended as we have indicated might make all the difference one could desire.

Manuring Market Garden Crops

A little brochure has just been issued by the Agricultural Department at Ottawa, and that can be had free by addressing the Publications Branch of the Department, for which, at a time when universal attention is being paid to vegetable gardening, there should be a large demand. It is entitled "The Manuring of Market Garden Crops, with special reference to the Use of Fertilizers." As the title suggests, the bulletin is intended mainly for the information of market gardeners, but seeing that the rules for the cultivation of the soil and the seeding and growing of vegetables and plants are common to all, its contents are really of general import, despite the fact also that a good deal of attention is paid to barnyard manure. The importance of manure in market gardening can scarcely be over-estimated, the bulletin rightly remarks, adding "Stable manure has been and probably always will be the main standby of the market gardener. From this the Bulletin goes on to tell of the nature and composition of manure and of its influence. The nature and use of lime and its compounds next receive attention, followed by a disquisition on commercial fertilizers, their composition and methods of application. In this connection the section devoted to Potassic Fertilizers is especially interesting and valuable. Advice with elaborate tables is given on the value of different fertilizers, and, finally, suggestions to meet the fertilizer requirements of special crops, in which are included all kinds of vegetables and fruits. An appendix gives the results of experiments in fertilization with carrots, turnips, parsnips, celery, onions, tomatoes and peas.

A Successful Train

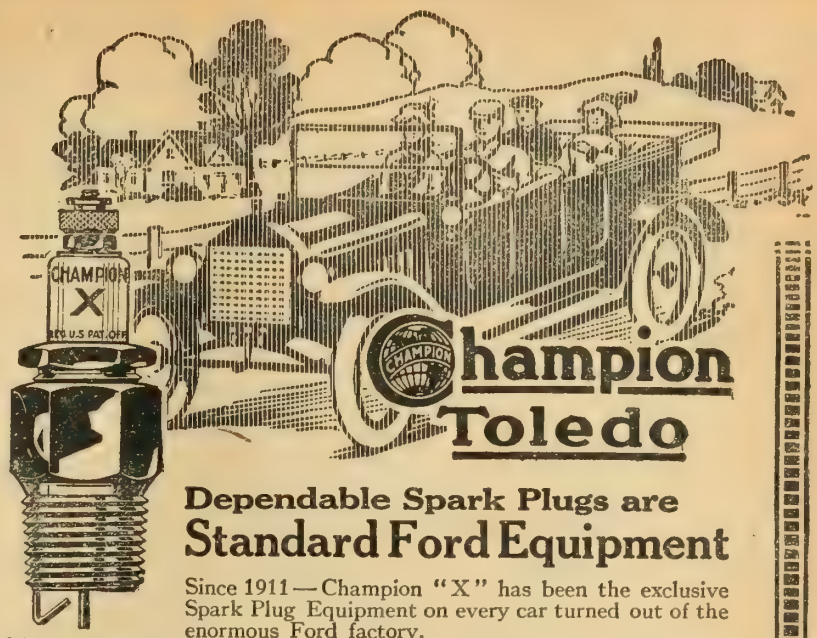
The Better Farming train sent out by the Saskatchewan government during June and July, has scored the best results yet.

The attendance exceeded 6,000 over that of last year for the five-week trip.

Not Always Happy

It is customary but I think it is a mistake, to speak of "happy" childhood. Children are often over anxious and acutely sensitive. Man ought to be man and master of his fate; but children are at the mercy of those around them. Mr. Rarey, the great horse-tamer, has told us that he has known an angry word to raise the pulse of a horse ten beats in a minute. Think then how it must affect a child!—Lord Avebury.

"Mistress Mary, not contrary,
What does your garden grow?"
"Tomatoes, peas, spuds if you please,
And cucumbers all in a row."



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Use it according to directions and watch your stock improve in strength and value.

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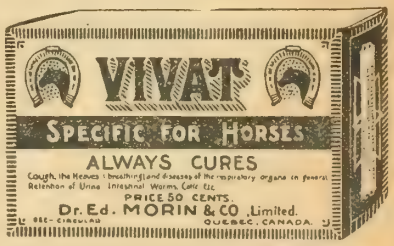

It also increases appetite, and gives vigor and endurance. It is especially valuable for race horses, and those travelling and working hard.

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The Businessman's Mind

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THE Businessman—What should be the character of this mind? —What is the mind of the Manufacturer, the Wholesaler, the Retailer? Certainly the Businessman's mind should be broad. It should be something of the Banker's, something of the Financier's, something of the Statesman's. The Businessman should see broadly. The horizon of interest and of inquiry for him should be a far one.

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Investments and Insurance

For the Farmer

Wise Investments

The lessons to be drawn from the investing experiences of A. J. Hemphill, of the Guaranty Trust Co. of New York, as given in the *Worlds Work* recently, will be valuable to all who have money to invest. Regarding some early experiences in investments he says:

These early experiences of mine were not investments but speculations, and it was probably a good thing for me that most of them failed, for I got valuable investment training from them.

In considering employment of funds in any concern, the greatest emphasis should be placed on the ability of the management. I would say the most important consideration in any investment is management, management, management, and again management. It is not enough to know that it is honest; its ability in that particular business should be established. Ninety-five per cent. of the worth of an undertaking, I should say, is in the management.

And money should not be put into a proposition just because the name of a Senator or other well-known individual appears in it. Nine chances out of ten they know nothing at all about the business and have no ability that is valuable in connection with it. In my early experiences I knew the men in the concerns, but the failures came because those men did not have the ability necessary to establish the companies on a paying basis. Under able management they should have prospered.

In the get-rich-quick flotations, which continue to flood the market, there is nothing more than paper management. People go into them because of the high returns promised and make absolutely no inquiry regarding the management.

When it comes to employing funds in straight investment channels, as they should be where safety of the principal is a chief consideration, then the point to consider most carefully is the character of the house which offers the security.

Price Regulation

The following from the pen of Agnes E. Laut, the celebrated writer on financial subjects in Canada and the United States, writing in *The Financial Post*, a paper published by the MacLean Publishing Co., will be of interest to all who talk price fixing.

It need scarcely be recalled to memory that price regulation of clothing and food was one of the abuses abolished in England in the days of Queen Elizabeth, and one of the abuses abolished in France during the Revolution. Of modern nations, only Germany has attempted to revive this old-time government interference in private affairs, though the American Food Bill could be construed into price regulation if Hoover were uneconomic enough to try it, and Baron Rhondda in England is reported about to attempt something of the kind.

We have a foolish idea that Germany by her price regulation has conserved her food supplies, and that the Allies by failing to enforce such regulation, have wasted their resources. No idea could be falser. There is less want among the Allies to-day than in Germany. In fact, there is no want among the Allies to-day. Where have you heard of troops quelling food riots as in Stettin, or of Allied generals complaining of lack of fats for their soldiers? These complaints come only from Germany and Austria, where food prices have been regulated. The long food lines where women and children stand for twenty-four hours to get their turn at a dish of putrid horse meat stew, exist, not in London, but in Berlin.

All Germany's boasted price regulations have done is to deprive the poor of a chance to buy cheaply and enable the rich to become richer. Two examples are enough—potatoes and ham. The season of 1916 was a bad potato year. While the German farmers got crops, they were not of a good keeping quality. The government had a fixed price—I forget what it was—somewhere around $1.50 to $2. The potatoes were thrust on the market and sold to the poor and the hungry at that price, in the hope of storing against want. They were not worth 10 cents, for they did not keep till Christmas. Then, when there was a real potato famine, the few good potatoes came out of hiding. Yes—ostensibly—they sold only at the government price. But before the man who ate them, got them, they had cost him $10 a bushel. The same of hams. Hams were regulated around 18 to 25 cents a pound; but not a ham had been seen in a certain section of Berlin for months. Finally, one came on the market. It was sold at the government price; but the man who got the ham to eat, paid for it exactly $45. That was in last November. The small farmer, the producer, got skinned. The profiteers, the sub rosa filibusters of trade, got the real cash.

INSURANCE

Insuring the Farmer's Son

"It will mean a good deal to him by the time he has sense to use the money," was the verdict of Walter Ionson's father the day he received the twenty-year endowment insurance policy on the life of his son. Ionson senior realized that he never would be able to give his son any considerable sum of money. More vividly still did he see the fatality of giving his boy a large amount of money that the boy had not earned and for which he had not made any considerable sacrifice. Thence his decision to insure his son's life.

"Walter," said the father, "I'm going to keep the premiums paid up on this policy till the time comes when you earn money on your own account. Every dollar that you give me to help pay the premiums I'll deposit in the bank for you. The more you help me to pay the premiums the more money you'll have bye-and-bye."

For six years young Ionson paid a little more than half the premiums. The

day he was twenty-one he assumed full responsibility for payments because on that date he entered into business relations with his father. "Let this policy alone. Leave it to work for you. Before you know it will have matured. If you cannot get on with paying the premium I doubt if you can get on without paying it. Stick to it and you'll not regret it," was the father's advice as he gave the policy into the son's care.

At the end of the period Ionson received his premium with sufficient profits to give him all his investment back with about three per cent. interest.

In reality the money received was the smallest return from the investment. The greatest benefits were that while he was a boy of fifteen he found himself a partner—a real, business partner—with his father, and that he had learned to plan and to deny himself for the future. Further, he had learned the relative value of things and in a measure had acquired self-control. Needless to say the payment of the policy went a long distance towards putting the young farmer on his feet while he was still on the sunny side of forty.—Andrew Kyle.

Insurance Lightens the Load

"One could easily bear to be poor; and bear to have his wife and children down with him, so long as he could be with them to help carry the load, and carry the largest part of it himself; but to go off to eternal rest, and leave them to go down into poverty and to fight the wolf from the door—what prospect more terrible than this to look forward to?"—Lyman Abbott.

Won't Take Their Money

Two beneficiaries of an insurance policy in the Bankers' Life of Des Moines actually refused to accept the money to which they are entitled. They are members of the Mennonite Society and declare that life insurance is a wager on life and death, considering the money left to them by their son as "blood money" on his head. The Bankers' Life faces the difficult proposition of determining how it should be disposed of.

Some Wealth Figures

Ninety per cent. of salaries of over $5,000 are entirely dissipated in seven years.

Nineteen out of every twenty fail to provide either for their old age or families.

Over 8,000,000 women must work to live.

Ninety-five per cent. of men engaged in business fail.

Ninety per cent. of children who enter school at age six have to stop before completing the eighth grade to go to work.

One in every two men at age twenty-five will be dependent upon some one else at sixty-five.

Nine out of ten men leave no estate.

Life insurance companies are distributing more than $2,000,000 per day.

Life insurance has deceased pauperism more than thirty-three and one-third per cent. in thirty-five years.

"The man who whispers down a well
About the goods he has to sell,
Will never reap the golden dollars
Like he who climbs a tree and hollers."

THE CANADIAN BANK OF COMMERCE

SIR EDMUND WALKER, C.V.O., LL.D., D.C.L., President

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Which is the better?

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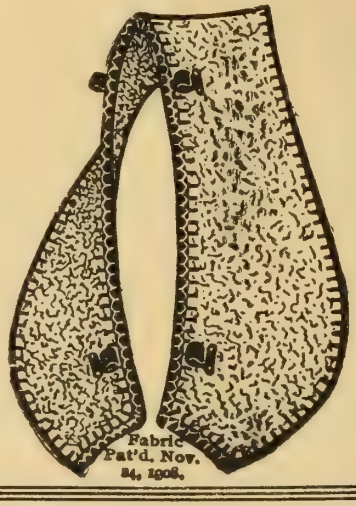

The Burlington-Windsor Blanket Co.

TORONTO, CANADA

The Crop and Business

In view of the great importance of the crop in relation to the Empire's food supply and Canada's business prosperity, THE FINANCIAL POST will present each week a special article dealing with the developments in a broad way and as they affect the business situation as a whole. This article will be edited by F. M. Chapman, Editor of The Farmer's Magazine, who will have direct and authoritative information on the Western Canadian situation supplied regularly by Miss Cora Hind, a former member of our staff, but now Agricultural Editor of the Manitoba Free Press, a publication whose information for some years has not taken second place even to the current Government statistics. Miss Hind's service will be supplemented by reports from the Provincial Departments of Agriculture from time to time.

THE POST believes that this special on agricultural conditions as presented to the readers of THE POST will prove a very valuable guide to the manufacturers and business men, as well as to the investing public as to the developments of the crop in relation to general business and financial affairs.

This is only one of the many news features that THE POST gives its readers every week. It has become so valuable that thousands of them renew year after year.

The Financial Post of Canada

143-153 University Ave. - Toronto, Ontario

The Age of Breeding

The first protest that I ever heard against the practice of breeding heifers to freshen as junior two-year-olds, came from the manager of a big certified milk farm in the New England States. "I prefer," said he, "to have my heifers freshen when over 30 months old. Then a cow has a calf; not one calf, another calf." Good reasoning, but it has not prevailed. The tendency for the past fifteen years among dairy breeders has been to bring their heifers in at a younger age until now we have the spectacle of senior yearlings under official test. The most dangerous feature of the situation is that some of our best known breeders have set the mark of their approval on the practice and have their own heifers freshening at two years or soon after. These men are extra good feeders. Their heifers are developed right from the start. This good feeding, combined with a long rest after the first lactation period, enables them to keep up the size of their cows. But for one breeder who is maintaining size and stamina in spite of too early breeding, there are a dozen breeders who are losing ground by the practice.

Among our Canadian live stock men no one has taken such a strong stand against early breeding as Prof. Barton of Macdonald College. On the occasion of my last visit to the college, Prof. Barton showed me a splendid big heifer with the proportions of a fully developed cow. Macdonald Lady Louise, as she is called, had freshened for the first time at 35 months and in three months and one day had produced 6,821 lbs. of milk on three milkings a day. She will make a great record and she will be a bigger and better cow than she ever could have been had she carried two calves as she would have done in most other herds. Thirty-five months may be unnecessarily old for first freshening, but Prof. Barton would place the minimum at 30 months and favors 32 or 33 months for Holsteins and Ayrshires.

I have visited many herds in which the best animals were the old foundation cows. Each succeeding generation showed diminution in size. Sometimes this was due to poor feeding, but in most cases I have found that too early breeding was at the root of the trouble. The desire to get a heifer producing a marketable commodity at as early an age as possible is easy to understand, particularly in the case of the young breeder anxious to increase his herd. But many are paying dearly for their haste. There are few cases in which early breeding is not a mistake.—F.E.E.

A Milking Shorthorn on an Ontario farm.

The Tree a National Asset

Steaming up the St. Lawrence River on a liner from the Old Land, one is impressed by the sight of the dense mass of trees, and being a fresh arrival to the country, wonders why a statistician has gone to the length of saying that unless great measures of conservation are undertaken, this continent is within measurable distance of becoming a treeless plain. Subsequent inquiries to a well-travelled man brought forth the simple answer "Fire." A perusal of forestry literature has proven the truth of the statement.

Passing from East to West one encounters a countless number of houses and shacks standing on the prairie with a far too uninterrupted view in all directions, lacking as they do, trees for beautifying, and for breaking the wind. What a difference there would be in the West if concerted efforts were made to bring the forestation of each farmstead to an accomplished fact. The farm house nestling among trees has a draw that the "bare wall" variety cannot exert on the farm family. Within the shade of the trees there is the home-like feeling that is shared alike by the hardy Norseman among the pines and the Arab among the palms.

Here in Canada we have an assortment of trees of a most varied nature, from the Black Pine, the sentinals of the Pacific Slope, to the Hemlock in the "forest primeval" of Arcadia, and from this stock the world is drawing with a speed accelerated by increasing necessity. The trees in the vast area outlined above form a most interesting study, and each variety becomes one's guard of honor as it were during the trip to the end of its territory and then a different variety will start to familiarize itself to us. The Sugar Maple of the East is the great home maker, as it is responsible for many a gathering of a social nature, and in the far West, be it partaken of by the miner in camp or the railway magnate in his private dining car, as the first spoonful of canned maple sugar touches the lips, the mind unfolds a vision of the old home "down East". The Maple is not only a good community builder but it has amply proven itself a nation builder.

Trees are great transformers and many a town or city "eyesore" has been converted in to a veritable beauty spot by the judicious introduction of a few trees. In the country there are many parched spaces awaiting the introduction of trees to start a useful life anew. In England to-day many a tree planted through sentiment has fallen before the bushman's axe to supply the needs of the Empire. A tree once planted becomes an investment with a yearly increase and exacts no toll or tax from the owner. The writer once read of one of Nelson's Admirals who spent his holidays in Scotland tramping about the countryside with a bag of acorns and whenever he came to a likely spot, he pressed an acorn far down into the soil with his walking stick. He explained to his brother officers that Britain would need the oaks for her fleet in some future generation. The nation builders of this country might do well to take a leaf out of that British Admiral's note book to the extent at least of planting trees appropriate to the country's needs, and making it a point of honor to protect and conserve the forest wealth of the country.

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The National Service Board of Canada,
OTTAWA. 30

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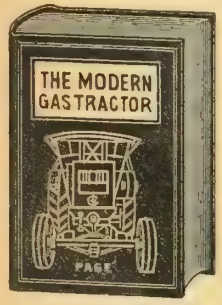
The Modern Gas Tractor



Its construction, utility, operation and repair. This book is a practical treatise covering every branch of up-to-date gas tractor engineering.

By VICTOR W. PAGE M.S.A.E.

Over 225 illustrations and folding plates.

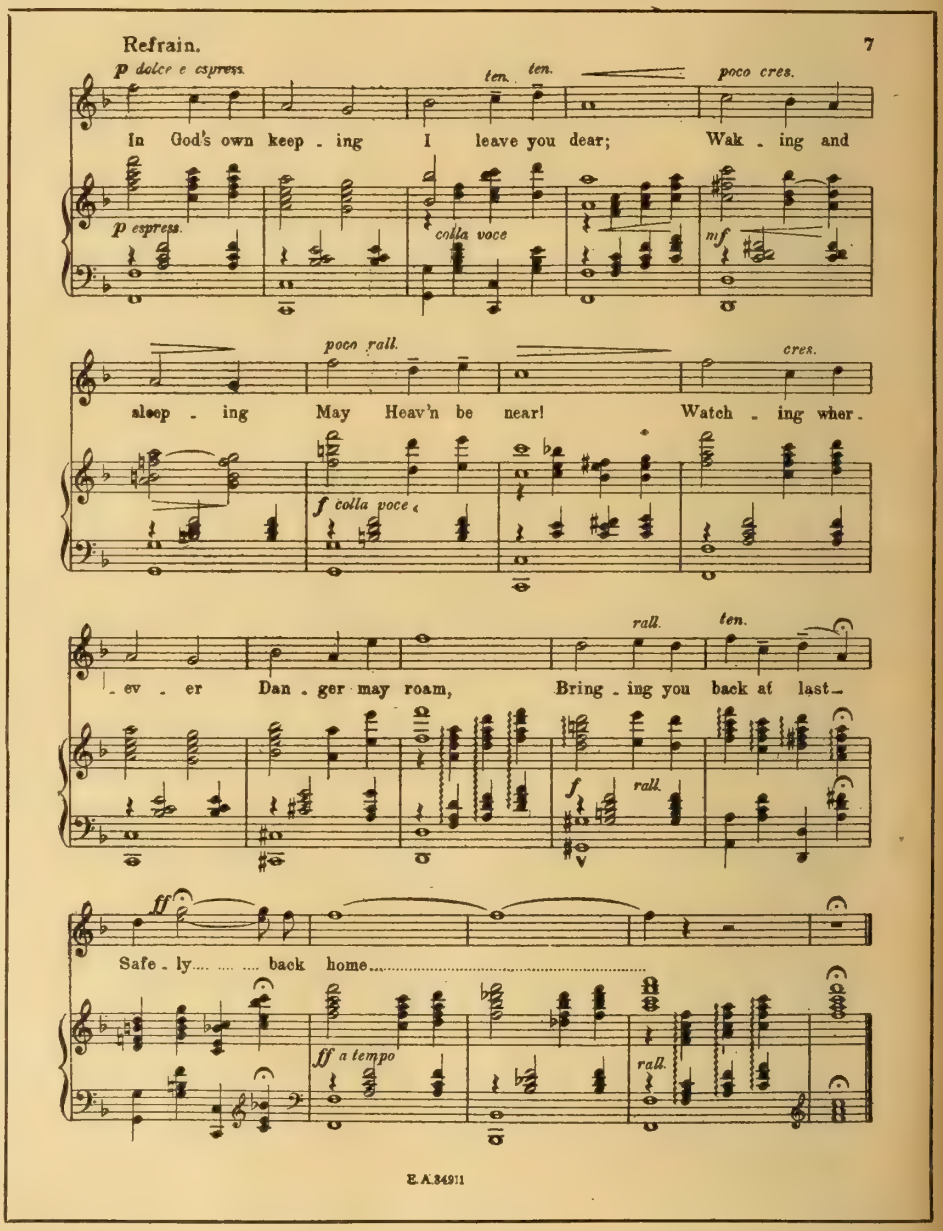
Mail two dollars today and get this book—keep it handy for reference and study. Address order to

THE FARMER'S MAGAZINE

143 University Ave. - TORONTO

Music in the Home

This department is opened in order to give some prominence to what has come to constitute a large part of our rural homes—music. No house is complete without some form of music and music is confined to no form or to no instrument. The joys of song, the beauty of the human voice, the music of children, the divers instruments that furnish sweet sounds, all soothe as well as write the histories of our national joys and woes. In ancient times we read that the wine press was trodden and the vintage which closed the harvest, was gathered with a song. The farm home of Canada that carries no music in it, is either deserted or brewing discontent.—Editor.



Good new music is constantly coming to the front. Occasionally some song or air catches the public fancy; and then it becomes so common as almost to be ragtime. Often the best music gets only a limited demand. This selection is the chorus in one of the new songs on the market. Try it over on your piano or organ.—L. B. G.

After an Illinois cyclone, the only thing left intact in the home of these two little girls was the organ. Who said music was not a force in the world!

My Favorite Selection

I am very fond of music and seeing your request in the July FARMER'S, I write to tell you that my favorite song is "Annie Laurie." There is something in it that continually appeals to me. I also love the air to that Irish melody "Of All Those Endearing Young Charms." I think that good music is one of the best things we have in our farm life. Jack plays the violin, mother chords for him, father has a fairly good voice, and I like the mandolin. We have also a Victrola besides a piano, which has a very sweet tone. I wish your journal every success. Sincerely your, A. L. McK.

How Animals Enjoy Music

Brutes can enjoy music; mice, in particular are thrown into raptures by it; horses are strongly excited by trumpets, and may be taught to dance in excellent time, or even to beat a tambourine with their forefeet; the iguana, a kind of lizard, is so passionately fond of music that if you but do him the favor to whistle to him, even should you happen to be but a second-rate musician, he will allow you to kill him rather than stir.—Ruskin.

Record Music

"Music boxes" are becoming so common now that thousands of dollars are spent each season by single dealers in securing new records for their customers. Farm homes in even the remote places can now enjoy the excellent voices of the leading singers, the triumphs of the master pianists, and the stirring marches of the leading bands in all countries. The invention of this machine has carried joy, gladness and amusement into millions of homes. Any questions as to records and music will be cheerfully answered in these columns.

Music in War Time

It is war time. The whole countryside bears the sorrowings of some mother for her boy. And it would seem a poor time indeed to talk of music or to seek surcease of sorrow with the harp. Yet there is nothing wrong about it. Some one has justified the enormous activity of the piano-makers with the explanation that were it not for music, human nature would fail to keep us reasonable beings. At any rate, there is a wonderful power in sweet sounds. A nation's sweetest songs are those which tell of saddest thoughts. —M. H.

ECONOMY in COOKING

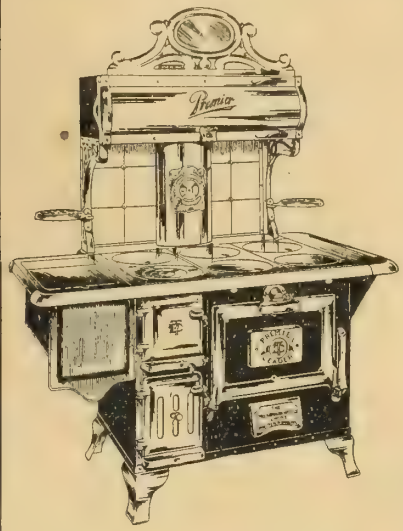
means much, these days, with prices of food and fuel constantly on the upward grade.

DAVIDSON'S

"PREMIER" STOVES and RANGES

are constructed for **service** with the least trouble and expense.

At the coming Toronto Exhibition, see and admire the great display of them; also, a remarkable assortment of Made-in-Canada children's toys.



"Premier" Ranges have earned a reputation on these important points:

—Fuel Saving
—Perfect Baking
—Ease of Operation
—Durability

Housewives admire particularly the

"PREMIER" LEADER

Dealers declare it to be the best value in a Steel Range on the market. The material used in making it is of the highest grade procurable. The oven is of steel with the bottom strongly braced to prevent buckling or warping. The fire box is extra large, and the linings and Duplex Grates are heavy. Special linings for burning wood can be supplied, also Water Front if required.

The Nickeled parts are plain and easy to clean, yet they give the range a very finished and attractive appearance, brightening up the kitchen.

The "Premier" Leader is supplied with Steel High Shelf or with Steel High Closet (Roll Door) or with our attractive Persian Closet, which consists of Tiled Back and Pipe Mirror Panel and swing Closet Doors fitted with Mirrors.

DAVIDSON'S PREMIER STOVES CANADA'S FOREMOST

The Thos. Davidson Mfg. Co., Ltd.

120 Duke Street - TORONTO

Montreal **Winnipeg**

Alleged Profits of The William Davies Company in 1916 on Bacon, as Indicated by Department of Labor to be Five Cents per Pound, Untrue:

Actual Profits Two-Thirds of a Cent Per Pound

THE statement issued by the Department of Labor concerning the business of The William Davies Company, Limited, has been given widespread circulation throughout the country and provoked public unrest.

Whatever the technical wording of the report was, the effect has been that the newspapers have published that "the profits on Bacon alone" of this Company "for 1916" were about "five millions of dollars." This interpretation of the official report is not surprising in view of certain statements that the Commissioner of the Cost of Living makes. The Commissioner is reported as saying that "There were two individual cases of profiteering in 1916, and that had these cases occurred since the passage of the cost of living Order-in-Council, he would consider it his duty to recommend that the facts be laid before the Attorney-General for consideration as to their criminality." The situation created by such erroneous and damaging statements is serious as emanating from a Government official, from whom one looks for not only accurate statements but correct conclusions.

The William Davies Company, being a private concern, has followed the practice of all private corporations, except when it made a bond issue in 1911, in that it has not published reports of its assets and liabilities or profit and loss. The present circumstance, however, in which a Government Official has led the public to false conclusions, makes it advisable for this Company, for both the public interest and its own interest, to publish particulars of its business, as well as point out the error of the statement of the Government Official.

For the last fiscal year ending March 27th, 1917, The William Davies Company bought and killed 1,043,000 head of Live Stock (Cattle, Hogs and Sheep). This, plus purchases of outside Meats, produced 160,000,000 pounds of Meats. The Company handled 6,550,000 pounds of Butter and Cheese, 5,650,000 dozens of Eggs, and manufactured 26,500,000 tins of Canned Goods.

The net profits on these were .68 cents (or two-thirds of a cent) per pound on meats, 1.04 cents on Butter and Cheese, 1.04 cents per dozen on Eggs, and .47 cents (or slightly less than one-half a cent) per tin on Canned Goods. These profits include profits on all By-Products derived from these accounts.

During the year the Company served at its retail stores 7,500,000 customers, the average purchase of each customer was 35c, and the net profit upon each sale was 5-8 of 1 cent.

The turnover of the Company from all its operations for the last fiscal year ending March 27th, 1917, was $40,000,000. The net percentage of profit upon this turnover, after deducting war tax, was 1.69 per cent., or including war tax 3.45 per cent.

The William Davies Company has assets of $13,385,000, of which $3,865,000 is tied up in fixed investments.

To provide the necessary facilities for the increased volume of business the Company expended $750,000 in buildings and equipment during the year.

Companies of other character present no more reasonable statement of profit and loss based upon the investments made in the business.

The William Davies Company offered to the Imperial authorities, as well as to the War Office Service (which represents the Imperial authorities in Canada) to place the output of its Factory with respect to Bacon supplies, Canned Beef and Pork and Beans at the service of the authorities, on the basis of cost plus an agreed percentage. These offers were successively declined as the authorities evidently desired to purchase in the open market, and on this basis The William Davies Company has secured War Office business by open competition with the world.

Respecting the Report of the Commissioner on the Cost of Living:

Last Winter the Commissioner, under authority of Order-in-Council, required packers to submit statements under oath for some years back and up to December 1st, 1916, of incoming stocks of Meats and the cost of such, as well as statements of outgoing product and the selling value. This Company represented in writing at the time that the information as specifically required was not in accordance with Packing House Accounting

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methods, and invited the Commissioner to send an Officer to the Head Office of the Company to examine the books for any information desired, and to secure a viewpoint as to the best way of collecting data which would be of use to the Government. This offer was declined, and there was nothing to do but fill in the information required as literally as we could determine it. For example, there was no recognition of the fact that a raw product may enter a factory under a specific classification and leave the factory as a finished product under some other classification.

We submitted a series of accurate figures based upon our interpretation of the official requirements which made no provision for charges of any description other than incoming freight and unloading charges to be included in the cost or to be deducted from the selling price. There was nothing in the report which could be read so as to determine a profit and loss statement. The very fact that with only a statement based upon cost of raw products and value of sales in Great Britain a Government Official has deduced "Large margins," "Profiteering" and "Criminality" if it had occurred since the passage of a recent Act, shows too dangerous a trifling and incapacity to be permitted to deal with any important situation. The statements of this Company have been treated by the author of this report as if the outgoing product was identical with the incoming product, and from the series of reports he has singled out two items—the Bacon and Egg reports—and from them deduced an erroneous "margin" which the newspapers have interpreted as "profit." The author of the inquiry shows a strange lack of even a fundamental knowledge of simple bookkeeping and a dangerous inability to coordinate figures. The following are specific and outstanding errors in the report:

The principal item that is causing excitement deals with cold storage Bacon. The term "cold-storage" is not defined, and the public is allowed to make its own definitions. As all Bacon in a packing house is under refrigeration, it is really all cold-storage, and therefore this Company's figures of cold-storage Bacon represent the complete quantity of Bacon handled in its entire Plant, whether in freezers or in process of cure for immediate shipment. That some Companies interpreted cold-storage product as "freezer" product only is evidenced by the smallness or entire lack of figures on the Bacon list for some Plants, indicating that many Firms did not submit statements of their complete stocks, as did this Company. An Official of this Company pointed out this cold-storage distinction to Mr. O'Connor and Miss McKenna in Ottawa a few weeks ago, and the failure to make the distinction after having had it pointed out evidences lack of desire for accuracy of the real information desired.

It is true The William Davies Company, in 1916, exported 97,791,000 pounds of Bacon, but we do not know how the margin of 5.05 cents per pound is arrived at by Mr. O'Connor, as there were no figures to justify such a conclusion. The probabilities are that the margin is arrived at by taking the average cost per pound of incoming product from the average selling price per pound of outgoing product. This may be a rough way of estimating the gross margin when dealing with small figures, but when dealing with figures the size that Mr. O'Connor has to deal with, a very small fraction of a cent per pound of error makes a very important difference in the total, and one must be careful to make sure that the outgoing product is the same finished merchandise of the incoming product reported on.

Allowing it to pass, however, as a rough estimate, we wish to point out—(first)—the inquiry of the Commissioner allowed only for incoming freight and unloading charges, and made no provision whatsoever for operating charges of any kind, such as labor, curing materials, refrigeration, et cetera. Such actual charges on the 97,791,000 pounds exported were $1,162,000—or 1.2 cents per pound. This amount covered all charges up to the point of placing the Bacon on cars f.o.b. packing-house. In addition to this was the actual cost to land and sell this 97,791,000 pounds in England after leaving the packing house, which involved charges of 2.9 cents per pound —or $2,836,000. This 2.9 cents per pound included inland and ocean freight, landing charges, war and marine insurance, cables, and selling commission to agents. The ocean freight and war risk alone would make up 2.4 cents of the charge of 2.9 cents per pound. This 1.2 cents plus 2.9 cents—a total of 4.1 cents—must be deducted from Mr. O'Connor's margin of 5.05 cents per pound, leaving a margin of .95 cents, or slightly less than a cent per pound, which still has to be reduced because of the error of premises and because of further factors which have to be considered to determine net profits.

It is quite evident some of the other packers did not show selling values in the country in which the goods were sold—a proceeding quite proper, as the forms submitted to be filled in were indefinite and ambiguous, thus permitting without charge of evasion a variety of interpretation as to the information required. It is thus possible that of all the figures submitted by the different packers that no two sets of costs and sales prices are determined at the same common point. It is this difference of interpretation of what was required that accounts for the difference of the alleged "margin" made by the different companies. Common conclusions, however, have been drawn by the author of the report from varying bases of premises.

The figures of the Egg business were submitted on the same basis as Bacon, and similar deductions must be made.

(Second)—The above mar-

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gin is further reduced in that the author of this inquiry singled out the Bacon figures as an item in which the selling price shows an alleged improper advance over cost, but he did not give us credit for the statements of other products, of which figures were submitted, the selling prices of which were under cost. The reason of this was that through failure to inquire the Department entirely overlooked the fact that product may come in as pork and, through the process of manufacture, go out as Bacon, or, in another instance, enter the factory as beef and go out in the form of canned meats; for example: much of the product which came in as pork, and which was entered on the pork sheet submitted to the Commissioner—about which he makes no mention—was cured and left the factory in the form of Bacon, and was, therefore, entered on the outgoing side of the Bacon sheet—the result is that the Bacon sales are increased by this amount over the incoming stocks of Bacon, and, likewise, the sheet showing sales of pork is reduced by the amount that went out in the form of Bacon. If the Department takes one set of figures that show favorable to the Company they should take another set of figures that show unfavorable, as the principle in either case is the same, and failure to do so looks as if the author of the report was exercising more enthusiasm than sound judgment in his investigations.

(Third)—It is queried in the report, that "if the margin of 3.47 cents," alleged to have been made in 1915, "was satisfactory, why was it necessary to show increased margin in 1916?" Assuming again for the moment the soundness of the premises in asking such a question based on an erroneous "margin," it will be found that the increased margin is chiefly absorbed in increased ocean freight rates and war risk insurance in 1916, of which apparently the author of the report was in ignorance.

The Company does not challenge either the legal or moral right of the Government to investigate business enterprises when public interest directs such an investigation should be made. If an investigation of the packing and meat business is ordered, the Company will place at the disposal of the Government not only the data it would be required to supply under Order-in-Council directing that inquiry be made, but will place the experience of its officers at the disposal of the investigating committee, if it is considered they can render any service which will be of value. The Company has not now—nor at any time during the fifty years of its operation—anything to conceal in method or practice of carrying on its business. It does, however, claim the right to conduct its export business without abusive comment from Government civil servants—especially when the conclusions drawn from the data asked for are improper and false.

One of Canada's chief export industries is the packing business. It is essential to the live stock industry, and, along with other export industries, it maintains the financial stability of this country and should, providing it is on a sound basis, receive encouragement and not slanderous abuse. In view of the publicity given to the report of the Commissioner on the cost of living, the Company demands the same publicity in having an official Government investigation of this report to determine the truthfulness or untruthfulness of its conclusions. We do not seek public consideration as a company, but we do say that untruthful official statements, or statements the effect of which is to create an untruth, adversely affect the live stock industry of this country, which is so valuable and essential a wealth-producing power and, in the long run, are harmful to the very people that the statement seeks to benefit.

If the passing out of existence of a corporation such as The William Davies Company, or if nationalization of packing houses would materially and permanently reduce food prices, then in view of the present world tragedy it ought to be consummated without delay. The fact of the matter is, however, that with millions of people in Europe turning from producers into consumers because of war, and the tremendous destruction of food products incident to war, there is no remedy for the high prices of food while such conditions last, except the remedy of thrift and increase of production.

Long before there was talk of a Food Controller in the United States or Canada The William Davies Company urged the Government at Ottawa, in writing, to appoint a Food Controller with full power to do what he saw fit, as we realized at that time the upward tendency in the price of food commodities unless checked by official effort. At the most a great deal cannot be done in reducing food prices while currency is inflated and until the scale of prices of all kinds of commodities declines also. What can be done can only be done by a Food Controller. We wish to point out that nothing at all can be accomplished unless the data secured are accurately and clearly made and the deductions therefrom sound. Only public harm arises from dangerous incompetency in the haphazard collection and careless use of important figures.

As far as The William Davies Company is concerned this terminates all public statements of the Company, and it will pay no more attention to speculative and haphazard statements made either by newspapers or civil servants. The only further statement that will be made will be at an official investigation.

E. C. FOX, General Manager

THE WILLIAM DAVIES COMPANY, LIMITED

Toronto, July 17th, 1917

Healthy Inspection in Saskatchewan Schools

At the recent Homemakers' Club Conference at Saskatoon, Miss Brown said that some mothers objected to their children being submitted to the health inspection and thought themselves capable of looking after their diseases and habits, but they could not be sure that the mothers of other children were equally capable and therefore as a safeguard all must be inspected. Miss Brown pointed out that to prevent diseases, physical defects or discomfort, lighting, draining, grounds, buildings, ventilating, equipment and cleaning must all be considered in connection with the school as well as the home, and that mothers should make inquiries as to the strict adherence to the rules laid down by health experts concerning these things. Cross lights, shiny boards, desks too high or too low and chalk dust were all fruitful sources of disease and defect. The number of men rejected by the army authorities for defects showed that too little attention had been paid to these things. She suggested that several towns should club together and engage a trained nurse to supervise the health of all school children.

THE MAKING OF A RED RIBBON HORSE

Continued from page 5

or a full grown man in feminine apparel. It makes the horse look foolish. A neat diamond rool, or an "Aberdeen" rool looks well. Artificial flowers should be scarce, because nothing looks more ridiculous than a big horse decked out like a perennial border of impossibly colored flowers. Even this question has a bearing on the judge's opinion.

With the horse in the ring, see that he stands right. Don't allow him to get his head down and crest flopping, or his legs stretched out far behind, or stand on his toes, with frog flashed or too conscious of himself. Have him standing smartly up. Just as though he were ready to move right away at a second's notice; legs fore and aft lined up straight and close together, crest up and eye alert. It compels the judge to look at him twice! Above all, don't get him in a hole.

A FEW HOLES TO AVOID

And in the last place, co-operate with your horse by obeying the judge's instructions. The showman with brains never questions a judge's request, minds his own business and above all, accepts without comment his award, whether it be a red or green ribbon or the "gate." This is the man who always has a welcome on the tan bark and comes back to win. Don't hire your friends to stand around the ring and clap and shout every time the judge looks at your horse. It's too old a scheme and may make the judge either nervous or mad. I wouldn't begin to harangue my friends after the show is over, and bore them with an account of the "dinnty steal," or the blemishes on so and so's horse that was placed over your's. No one will believe you and your name goes down in next year's catalogue as a "sorehead." Then it's the gate for you.

Finally, don't feel discouraged if you fail to pull a ribbon. Come back next year; don't forget the name of your horse and his number on the catalogue, and your chances are good. In a word, go into the business properly.

The High Cost of Coal Kept Down

The Kelsey Warm Air Generator Gives Health Heat

Investigate the "Kelsey"—it is different—not only does it keep down coal consumption but it keeps doctors' bills down, too, both mighty important savings in households to-day.

The "Kelsey" has stood the test for 25 years, and it is the triumphant heating system to-day. It embodies the correct principle for heating and ventilating a house—it heats and ventilates at the same time—heats all rooms alike. By capping two of the sections you can heat distant rooms which could not possibly be heated with ordinary furnaces.

The Healthful advantages and saving from using a "Kelsey" are told in our booklet—"Summer Comforts in Winter Weather." Send for a copy.

The Canada Foundries & Forgings, Limited

James Smart Mfg. Co. Branch

BROCKVILLE, ONT. WINNIPEG, MAN.

Save This $1.10 Every Day

In a ten-hour day a 5 H.P. Gasolene Engine burns 5 *gals. of Gasolene at* 35c *a gal. Cost* $1.75.

In the same length of time a 5 H.P. Hoag Oil Engine burns 3¼ *gals. of Kerosene at* 20c *a gal. Cost* 65c.

There's a daily saving of $1.10. Isn't it worth while?

Now the Hoag Oil Engine is not a gasolene engine in disguise. It's a *real* oil engine with a principle of operation radically different from that of the gasolene engine. This principle has been thoroughly tried out in the United States for the past ten years and is not an experiment. There are no batteries, coils, wires, spark plug, magneto or carburetor. As ninety per cent. of all engine troubles come from electrical ignition and faulty carburetion, you can see why the "Hoag" is practically "trouble-proof."

HOAG OIL ENGINES

"The Sensation of the Age"

A "Hoag" is built to run on oil only and will not operate on gasolene. In coldest weather it will *start* as well as run on kerosene without pre-heating

If you are desirous of saving yourself $1.10 a day, and of ridding yourself of engine trouble, just let us know. We want to send you full description of the Hoag Oil Engine which costs no more than an ordinary gasolene engine, but is so much more economical.

Drop us a card to-day for description and price of size of engine you are interested in.

Henry P. Hoag & Co.

86 Dalhousie Street - - Brantford, Can.

TO CANADIAN SEEDSMEN

To The Seed and Nursery Trade Only

SEEDS FOR 1918

Garden, Farm and Flower. Please ask for our special prices for next season's delivery—now ready—stating probable quantities if possible.

Kelways offer FAIR business inducements to all who are free to place their orders in the best market.

Kelways untrammelled by convention, will be found Up-to-Date by Up-to-Date Houses. For example:—

Kelways leave the Seed ground clear to all Trade Clients, accepting NO Market Gardeners' orders in any district at any price, neither direct, nor through agents, nor through special travellers engaged for the purpose; and therefore confidently seek the continuation of that support from the Seed Trade which Messrs. Kelway gratefully acknowledge as having resulted *in the enormous increase of their business* during recent years. Enquiries from Market growers are referred to Kelway's customer in the district.

Kelways quote REAL PRICES based on actual growing cost, plus moderate establishment charges.

Kelways enjoy 66 years' reputation second to NONE, and are old-fashioned only in integrity and in attention to (their OWN) business in the interests of their clients.

MOTTO---Quality Firstly, Secondly and Thirdly

KELWAY & SON

Wholesale Seed Growers to the Genuine Seed Trade Only

LANGPORT, ENGLAND

CATALOGUES, BOOKLETS, BULLETINS AND CALENDARS

The eighth annual sale of Fat Stock at the Union Stock Yards, Toronto, takes place on December 7th and 8th.

Farm Sanitation, with details of building hog wallows and dipping vats, is the subject of a bulletin issued by the Park Davis & Co., Department of Annual Husbandry, Detroit, Mich., U.S.

How to operate a Case 9-18 tractor, should be an interesting booklet for every farmer operating a gasoline tractor. It is a booklet of 22 pages and can be had by writing the J. I. Case Mfg Co., Racine, Wisconsin, U.S.A.

Velvet for Dairymen is the title of a catalog issued by the Sharpless Separator Co., 1130 Dundas St., Toronto, and gives some information upon the relation of speed to clean cream skimming and the sizes of their machines.

The Glen Poultry Farm, Haghton, Preston, England, issues an attractive bulletin on his various pens of white Wyandottes, white Leghorns, and Buff Orpingtons. It can be had by addressing Edward Cam, the proprietor.

Horseless Plowing is the title of a most attractive booklet advertising the Cockshutt tractor plows. It is well illustrated, shows different hitches, detachable shares, adjusting devices, etc. It can be had by writing the Cockshutt Plow Co., Brantford, Canada.

D. Derbyshire Co., Ltd., Brockville, Ont., have issued a booklet giving a brief history of the Burrell-Lawrence-Kennedy milker. The cuts fully illustrate their way of mechanical milking and will make valuable reading for all dairymen. It can be had by writing the above firm.

The Canadian Hart Accumulator Co., Ltd., of St. John's, Quebec, issue a smart catalog describing their Cantrac storage batteries for electrically equipped vehicles. The instructions for working and charging the batteries will be found most valuable. It can be had by writing them at the above addresses.

Home Canning is the title of an excellent bulletin prepared for the Ontario Department of Agriculture by Miss Ethel M. Chapman. It takes up the question of why canned fruits and vegetables spoil, and follows it by methods of canning. All these several methods are explained clearly and fully, and the illustrations enable even the novice to do the work aright. In view of need of the conservation of food in Canada this year, this bulletin will be one of the most welcome to the housekeeper. The recipes for fruit jams and relishes, as well as the directions for canning chicken, meats and soups are all first class. A chapter deals with egg preservation, another with the drying of fruits and another the curing of pork and beef on the farm. S. C. Johnston, the vegetable expert of the department, adds a note on the cellar storing of roots and vegetables that will come in handy. Send for it to the Department of Agriculture, Parliament Buildings, Toronto, and mention FARMER'S MAGAZINE. It is free.

Young Men on the Farm Who Cannot Go to War

Canada Must Have Greater Agricultural Production.

Canada Needs Men Trained in the Best Agricultural Practices.

You will be of greater value to your country and to yourself if you acquire all available information regarding your business as a farmer.

You can obtain this information during the Fall and Winter months at the

Ontario Agricultural College
Guelph

The College Term. The college opens September 21st and closes April 12th. This is convenient for most farm boys, as the hardest work of the summer is completed before the commencement of the term and students can return to their homes for the spring seeding.

Courses. **The Two-Year Course** is particularly designed for young men intending to be good practical farmers. It includes studies which are of practical value in all the work of the farm. **The Four-Year Course** for the degree of B.S.A. is a two-year continuation of the two-year course.

Expenses. In order to encourage young men to attend the college, the fees are fixed at the lowest possible figure. Board $4.00 per week—Tuition Fee $20.00 per year.

Public School Education is Sufficient for Admission

College Opens September 21st

Write for a Calendar giving full particulars.

G. C. CREELMAN, B.S.A., LL.D.,
President.

Ontario Veterinary College

110 University Avenue, Toronto, Canada

Under the control of the Department of Agriculture of Ontario.
Affiliated with the University of Toronto

College Reopens Monday, 1st Oct., 1917

Calendar sent on application

E. A. A. GRANGE, V.S., M.Sc., Principal

Sales and Wants

The Farmer's Exchange

5 cents a word—per month

Rates for Classified Ads.—Insertions in this column five cents per word per issue. Each initial, four or less figures in one number count as one word. Name and address is counted as part of the ad. All orders must be accompanied by cash. Forms for the month close on 12th preceding month of issue.

POTATOES FOR SALE.

100 BUSHELS No. 1 WHITE, SOUND firm potatoes, $2.00 per bushel. Pronger Bros. F.O.B. Dryden, Ontario. (8-17)

JEWELRY.

WALTHAM WATCHES — $5.50 TO $150.00. Reliable timepieces. Send for free catalogue to The Watch Shop, Wm. E. Cox, 70 Yonge St., Toronto. (tf)

RAZOR BLADES SHARPENED BY experts — Gillette, 35c dozen; Ever-Ready, 25c. Mail to Albert Keen Lage Co., 180 Bathurst Street, Toronto. (4-18)

BUGGY FOR SALE.

FOR SALE — TWO-SEATED RUBBER-tired buggy; good as new, $50. This buggy originally cost $150, and will prove an ideal family buggy. Apply Box 210, The Farmer's Magazine, 143 University Ave., Toronto.

BOOKS.

WEALTH FROM THE SOIL—BY C. C. Bowsfield. A book that gives us many useful hints on how to make the farm pay. "The earning power of such places reaches as high as $5,000 a year." It gives facts and figures. Postpaid for $1.00. The Farmer's Magazine, 143 University Avenue, Toronto, Ont.

THE BUSINESS OF FARMING — BY Wm. C. Smith. Do you believe in the influence of the Moon? This author treats this subject from experiments on his own farm. This takes only a few pages, and the whole book is a useful one. Postpaid, $2.00. The Farmer's Magazine, 143 University Avenue, Toronto, Ont.

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All queries must be accompanied by the writer's name and address. If personal answer is required, enclose a 3-cent stamp. Address all correspondence to Grasmere, THE FARMER'S MAGAZINE, *Toronto, Canada.*

CUCUMBERS.

L.G.B., Ontario.—People often tell me not to eat green cucumbers without allowing the slices to be salted and the poison extracted. Could you tell me about the correctness of this?

Answer.—Dr. Wiley recently answered this in *Good Housekeeping*. He said: "I think cucumbers are much better if sliced and salted and set aside for a sufficient time for the salt to penetrate. There is no poison in cucumbers, and therefore the salt can not "draw it out." Cucumbers eaten hastily put into the stomach large pieces of indigestible material which may tend to cause cholera morbus, especially in young children. There is not enough nutriment in cucumbers to make any fuss about, but they are a condimental substance and are perfectly wholesome when properly masticated.

CUTTING MILLET FOR HAY.

W.J.R., Ontario.—At what stage should the millet be cut for hay? How would you cure it? How does it compare with clover for feeding cattle?

Answer.—Millet should be cut for hay about the time most of the heads have appeared and when it is in full blossom, but before the seeds begin to ripen and get hard. It should be handled much as timothy hay is handled; that is, allow it to cure dry in the swath and then rake into windrows or put into cocks as preferred.

Millet can scarcely be compared with clover hay in feeding value as it more nearly approaches the composition of timothy. Clover hay will contain two times as much digestible protein as millet, but will contain a less amount of carbohydrates. Millet, when properly cured and when cut before the seeds get hard, will make a fair to good grade of hay, providing there is a sufficiency of other protein feeds that can be fed to make a balanced ration. It is not considered as good a feed for horses but if fed with care it will do no harm.

COMMON WHITE BEANS.

H.W., Saskatchewan.—Could you put me in touch with some one or some firm who grows the common white bean for market?

I know this bean is grown in Ontario, but I don't know with what degree of success, so I would like very much to get full information in regard to this crop, the preparation of the soil, soil suitable, how sown and cultivated, and most important, how harvested. What will it yield per acre and at what price per bushel is it retailed in ordinary seasons?

Is it a paying crop in Ontario and if not then why not?

I have never seen this common white bean growing in the West. Do you know if it has ever been tried out here and with what success, and if not with success, then why? Do they require special machinery to harvest and thresh? Do some farmers pull by hand and thresh with flail?

Answer.—Your inquiry *re* white beans to hand. 86 per cent. of the beans grown in Canada are grown in Ontario, and half the beans in North America are grown in the belt comprising New York, Ontario and Michigan.

In Ontario beans are planted either by hand or by a drill from May 24 to June 10, on well prepared land, loamy land preferred. Commercial growers sow them with a drill sowing about 1½ bushels to the acre. These are cultivated by horse cultivation until blossoming time, when they require little more attention until harvest. They are then harvested by a machine which throws them into rows, the common corn cultivator having reversible blade shoes which does the trick. After drying they are hauled to the barn, and threshed with a threshing machine made suitable by concave adjustment or by a home-made cylinder and cleaner rigging which some farmers use. Others flail-thresh. Average yield of beans is about 12 or 13 bushels, although 20 bushels yields are not uncommon.

It has been a paying crop in Ontario west of Toronto, and wet weather, frost and fungus disease are the enemies.

I do not know that this bean has ever been grown in the West. I should suppose that your climate is too uncertain in June and September, in fact most of the prairie climates are not suitable. Frost often cuts them off here in June, and slight frosts cut them before ripening in September. Anything requiring 100 days free from even light frost would come off slim in your districts.

Some of the leading bean growers of Ontario are found in Essex, Kent, Huron and Lambton counties. Write to the District Representatives of the Department of Agriculture at Sarnia, Windsor, Chatham and Goderich, Ont., and they will advise you of the dealers.

WANTS A TILING MACHINE.

G.W.J., Ontario.—Could you give me the names of some firms who would take a mortgage on a tiling machine?

Answer.—Doubtless you mean a ditching machine. THE FARMER'S MAGAZINE has frequently argued for a more liberal providing of those districts where drains are needed, of ditching machines and expert assistance to get these tiles in. Nothing we could do would increase the productiveness of our farms as efficient

drainage. Under the present arrangements of capital, it is not likely you can get a mortgage such as you mention. If you want information on the matter, take it up with the Ontario Government, Agricultural Department.

THAT GREEN FEED MIXTURE.

J.E.D., Ontario.—I followed your advice of last spring in sowing Prof. Zavitz's mixture for pasture, but left off the 7 lbs. of red clover. Surely anyone can see that after the tramping of a season, there would not be any clover come through.

Answer.—Yes, it looks that way from the outside. But one can hardly believe the way a clover field has come through. Last year W. L. Smith, of Orono, tried the plan and it was severely tramped during the dry fall. This year his best red clover is off that field. Other farmers report equally satisfactory returns. The clover yield the second year is generally a bumper one. Try it next time.

THE DANGERS AHEAD

Continued from page 11.

Canadian standpoint, our political system is mighty bad business for the country. Through no fault of his, a quiet, retiring, little gentleman of unblemished character, with no business experience aptitude, or inclination is compelled to assume the duties of a great business executive. This system has produced a man who has failed. Our system says, a Cabinet Minister must be one who can get the votes from his district for his party, or he must belong to a particular church, or be a noisy labor agitator. We do not produce the wheat. We subject our armies to the danger of starvation. We compel our best customer, Britain, to look for supplies elsewhere. She does fool things in the Dardanelles, to bring wheat from our greatest competitor, Russia. We force our best customer to produce for herself, and in future she will not need Canadian wheat. Our system thus cuts off one of the most important sources of our national development and wealth.

Our system actually discourages good men. N. W. Rowell is leader of the Ontario Liberals. He is a lawyer and his advice and assistance has been sought by the big corporations. Corporations do not employ any but the best brains and ability. They are hunting for them all the time. Therefore, Mr. Rowell must be "a man worth while"; just the kind of men needed, at this time, in public life. Some of the Liberals thought so and his name was suggested. Instantly the cry, all along the party ranks, "He won't do. He has worked for corporations. He will prejudice the party among the voters." It is the party, the system, not the best interests of the country all the time.

I trust, that, in this hurriedly written article, I have been able to make clear that everything is not going well; that things cannot go well, until we reorganize our National Government. Pin-headed demagogues are talking of conscripting wealth; as if that would settle our troubles. Wealth conscription, for this, and for the next, generation is here now. It is unavoidable. It is conscription of brains—the sane, brainy men and women of the country, we need, and must have, if we would win this war, and save something from the debris.

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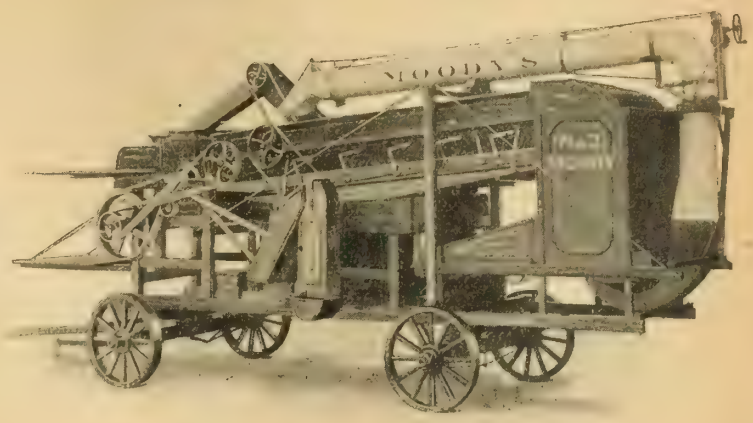

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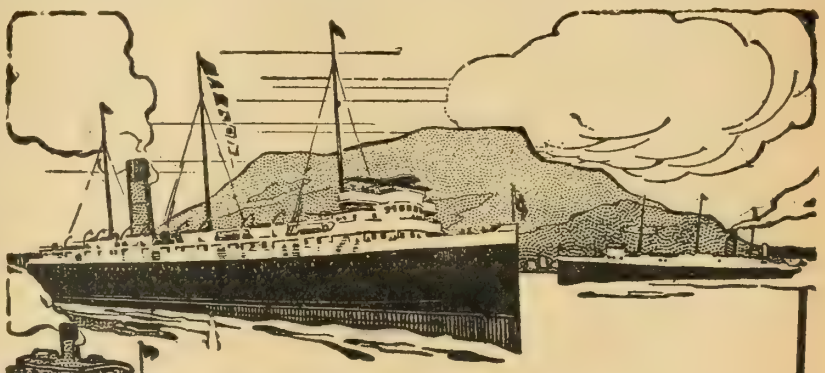

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About Live Stock

Keep a Few Sheep

The farmer who has a few sheep has a gold mine these days. And there is no good reason why every farmer should not have from two to twenty good ewes.

All that the sheep asks is a chance to live and she will do pretty well on food that other animals would find painfully inadequate. There are lanes that would be cleaner and farm yards that would be far more presentable were a few sheep left to look after the weeds. As soon as a field has been stripped of its harvest and the farmer is thinking of putting the plow into it, a few sheep, in a week or so would clean up bushes and weeds and grass that otherwise would prove troublesome. A herd boy on the roadside can look after a couple of score of sheep, much to the road's improvement and the farmer's profit.

Turnips sown after the early potatoes have been gathered will make fine fall feed, while clover and few oats and roots will be all that is needed together with a rain and snow proof shelter, for the successful wintering of the flock. A little judgment as to the time of mating and the lambing season is over by the time the serious operations of spring work are undertaken.

When sheep are mentioned, the dog menace at once comes to the farmer's mind. There is not much use in mentioning what government and municipalities should do so in such matters, as it is poor consolation to a farmer whose flock has been visited by vagrant curs to talk "law" to him, as law is the very thing the average farmer desires to keep away from.

What may be done must be done by the farmers themselves. First and perhaps best of all the protections against the marauding curs is the high wire fence enclosure, near the farm buildings. The top of this fence should be a double row of barbed wire. When the fence is made high and tight at both the top and the bottom the dog that attempts an invasion is liable to find the barbed wire unfriendly. If precautions are taken to add a barbed wire at the bottom of the fence, the cur will find digging under the fence decidedly unpleasant. Further, if a goose or two be enclosed with the flock of sheep, he will be a quiet dog that will disturb the flock without rousing the geese. Rome was saved by the cackling of geese and so may a flock of sheep. When a dog is found scouting for sheep, his owner should be notified and if the brute is not then taken care of by being sent to the happy hunting ground, it is just as well for the shot gun to be kept loaded and handy. No dog has any right

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Dipping sheep on a Lambton County farm.

to be off his premises unless he is under the eye of his master.

If sheep are provided every evening with some specially toothsome food no trouble is experienced with getting them to their enclosure of an evening.

Of course sheep are some trouble, but they are immensely profitable to the farmer who will take an interest in them. And profits are a good thing for a farmer to look after.—J.K.A.

Sheep Entries Grow

The sheep entries at Calgary Fair were 514 this year as against 250 last year. The entries in order of breeds were: Shropshires, 80; Suffolks, 58; Oxfords, 53; Southdowns, 47; Hampshires, 47; Leicesters, 26; and Lincoln, 3.

Erecting Elevators

The Saskatchewan Co-operative Co. have made good progress this year in new elevator work. Their program for this year is: Elevators purchased, Carlyle, Burdick; elevators completed, Neville, North Rosetown, Flaxcombe, Speers, Brownlee, Springside, Portreeve, Fairmount; elevators in course of construction, Richard, Sceptre, Loreburn, Kincora, Otthon; elevators to be constructed, Laura, Admiral, Mantario, Hawarden, Bladworth, Dollard, Estuary, Raymore, Kylemore, Preeceville, Primate, Dinsmore, Kelliher, Kincaid, Aneroid, Tramping Lake, Maymont, Instow, Denzil, Verulam, Sovereign, Hatton, Tyvan, South Fork, Leney, Noremac, Snipe Lake.

Railways and Weeds

The way bad weeds travel by express is well instanced by the following observation. While waiting to take my train at a rural Ontario station last month, I counted within a radius of two rods from where I stood on the platform the following varieties of growing weeds: Rag weed, yarrow, wormseed, mustard, hare's ear mustard, common mustard, bladder campion, yellow dock, Canada thistle, wild buckwheat, burdock, eli-campagne, golden rod, mullein, milk weed, sowthistle (perenniae and annual varieties), beggar's lice buttercup, dandelions and blue weed. —M. H.

Inspector of Records

C. S. Wood has been appointed Chief Inspector of the Canadian Record of Performance. He is a thoroughly practical dairyman and in connection with his public work has gained a recognized reputation as an expert judge and feeder of dairy cattle, and as a specialist in matters pertaining to milk testing.

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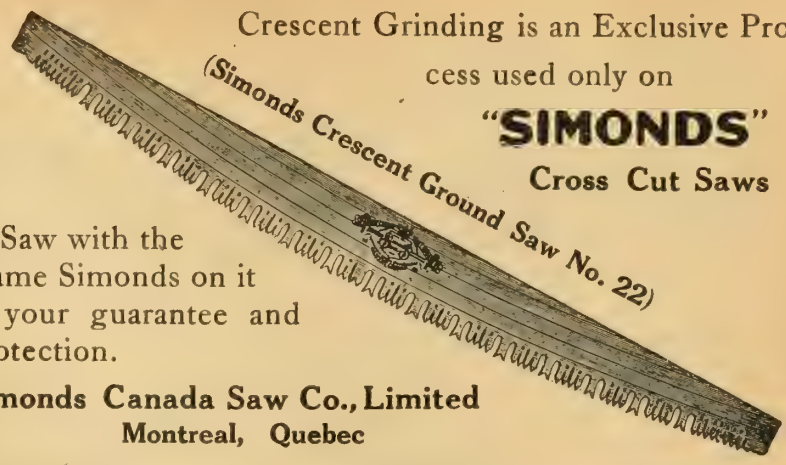

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The Business of Dairying

Dairy Farms Not Cheaper

In reply to a question asked by FARMER'S MAGAZINE as to the selling values of farm lands in the intensive dairy sections of Western Ontario, Mr. Frank Herns, Chief Inspector, submits the following:

Question 1:—

Do you find any number of dairy farmers in your group offering their farms for sale for less than what they could have got for them before the war. This on account of labor shortage. Mention any other feature of the situation which might have a bearing on this point.

Answers:—

Ingersoll, St. Mary's Section.

So far as I know farmers are not offering their farms for sale at any price any more than they were doing before the war. However, I know of a few farms which have been sold for less money than what they would have brought several years ago.

London, St. Thomas Section:

Do not know of any farmers offering their farms for sale for less than before the war. Some farmers are not keeping quite as many cows owing to labor shortage, but the high price of dairy products has started many farmers more extensively in the dairy business that kept only a few cows before.

Woodstock Section.

So far as I can learn there is not any more than usual number of farms changing hands, and certainly no lower prices being received for farms sold since the war.

Listowel Section.

The land in this section is not depreciating in value since the war, although there are less cows kept on some farms owing to the labor situation, but on other farms a greater number of cows are kept.

Alton, Dunnville Section.

Prices for all farm lands have advanced during the past three years. Canadian help is about the same as usual and more acreage of grain crop is sown this year.

Stratford Section.

There are quite a number of farms changing hands in some sections, chiefly due to good prices being offered, although some farmers look for land values to go down after the war.

Essex Section:

Real estate firms handling farm property in this district are not finding buyers so readily as before the war.

Question 2:—

Is it your opinion that farms are cheaper than they were before the war?

Answers:

Ingersoll, St. Mary's Section.

No. But there is a difference of opinion as to the effect of the war on the value of lands, some holding that there will be a drop in prices, while others hold the opposite view.

London, St. Thomes Section.

Farm land is higher in price now than before the war.

Woodstock Section.

No depreciation in land values.

Listowel Section.

Price of farm land not reduced.

Alton, Dunnville Section.

Farms are higher in price, but not many changing hands.

Tillsonburg and Simcoe Section.

The tendency is for the price of land to be higher.

Stratford Section.

Land values are no lower.

Essex Section.

Have not heard of farms being cheaper.

Question 3:

What do you think of the situation?

Ingersoll Section.

In reference to the dairy industry, the high prices for milk and hogs is encouraging many dairymen, but a reverse in prices may lessen production, chiefly on account of the labor shortage.

London-St. Thomas Section.

At present the labor problem is a serious question with the farmer, yet production is being wonderfully maintained.

Woodstock Section.

As much or more crop is being put in this year. There is some grumbling about the high price of grain and fed for dairy cows, but there is about the same amount of milk as usual being produced.

Listowel Section.

In Huron County some of the farms are in pasture, owing to shortage of labor.

Alton-Dunnville Section.

Farmers in this section are going more into cows, especially in Peel, York, Simcoe, Dufferin and further north. Many, who up to the year 1914 kept only two or three milk cows, are now keeping seven to nine, and the tendency is to increase.

Tillsonburg Section.

On account of the rainy season up to date, corn has not been doing very well, and farmers are depending more on grass for pasture and all cows available are being milked.

Stratford Section.

The farm situation is in very poor condition at the present time.

Question 4:

Is there any tendency for farmers to beef their dairy cows owing to the high price of beef and the shortage of labor?

Answers:

London-St. Thomas Section.

Do not hear of farmers turning over dairy cows for beef cattle. In some sections a few have "vealed" more calves than in other seasons.

Listowel Section.

In the poorer parts of the district this may be so to some extent.

Alton-Dunnville Section.

Dairy cows offered for sale for beef purposese has almost ceased, although this was quite prevalent a few years ago. Farmers are now realizing more profit in dairy cows.

The Menace of Color

Breeders of registered dairy cattle are usually the most clear-headed and well balanced of men. That they are not immune to the contagion of breeding fads and fancies, however, is increasingly evident in the tendency of fanciers of at least two of our leading dairy breeds to favor animals of a certain color or with certain markings. Recently I have visited numerous Holstein and Ayrshire breeders and almost without exception I found that color markings had influenced these men in selecting their herd sires. The preference in both breeds is for light colors. And this in spite of the many warnings against color fads that breeding history affords.

There is scarcely a breed of cattle that has not suffered at some time in its development from a color fad. The Hereford, for instance, is one of the oldest of the beef breeds. It got its start ahead of the Shorthorn. Before the breed was well established its fanciers divided into three camps and for years a bitter controversy raged as to what constituted correct Hereford markings. In the meantime the Shorthorn had forged ahead and gained a place in cattledom from which it has never been ousted. Even the Shorthorn, however, has suffered from passing fancies which at various times have favored reds, whites or roans. Fortunately its breeders were never carried far by these whims of the public. And so we might review the history of all breeds and in all find that adherence to some fad has resulted in a setback. But the greatest of all has been the menace of color.

In Canada some of the greatest cows of the two dairy breeds mentioned, the Ayrshire and the Holstein, have concealed their greatness beneath hides of the unpopular color. Among Ayrshires such great cows as Primrose of Tanglewyld, Auchenbrain Fannie 9th, Sarah and Jean Armour, are all more red than white and "old fashioned," in their markings. In Holsteins the great 29,000-lb. cow "Rauwerd" and her still more notable daughter, "Countess," were more black than white. In fact, few of the really great cows of this breed in Canada have carried as much white as fashion demands. It may be a shame that old Dame Nature cannot be induced to value color highly enough to clothe the great cows of all breeds in fashionable apparel, but, her preference being to disregard color altogether, breeders will do well to follow her lead. There are other more valuable objects to strive for.—F.E.E.

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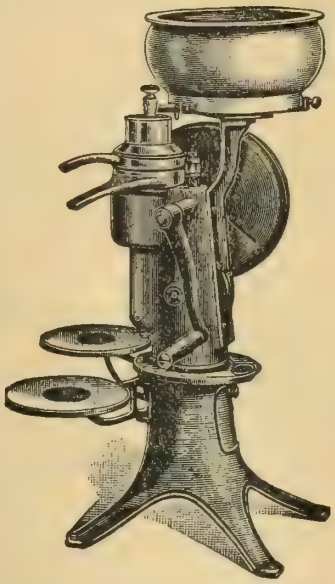

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"I used CAPITAL HEAVE REMEDY before on a horse that another man turned on a bare pasture to starve. I cured her with the powders. I can prove this about the old horse; I have her yet; she has never showed Heaves since." 2

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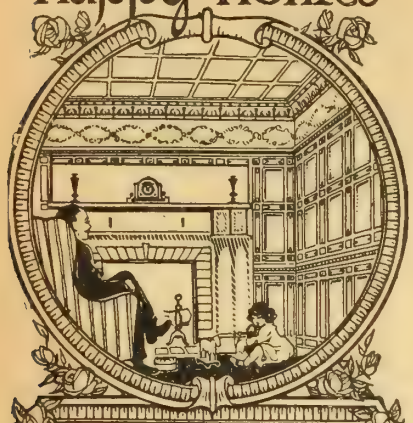

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In The Poultry Yard

August Poultry Hints

All the surplus young roosters should be marketed now for broilers or young roosters as fast as they can be fattened and a good market found for them.

When we stop to think how large a part of each chicken and each fowl is water, we see how necessary it is for a constant supply of clean, fresh water to be furnished.

It should be remembered that chickens which are tormented by lice or are without sufficient air to breathe every night or are crowded in poorly-ventilated or partly-closed coops in hot weather, can never be as profitable as they would have been if the lice had been kept away and the coops so constructed and so used that they had plenty of fresh air to breathe and reasonably cool sleeping places. It pays and pays well to keep the chickens comfortable.

Capons are superior in every respect to all other fowls. The public demand them—the poultry dealer must have them—and the poultry raiser must produce them.

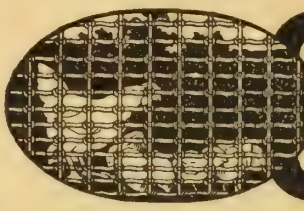
The proper way to thoroughly and easily white wash a poultry house is to use a spray pump. A hand sprayer can be purchased for a few dollars and should be on every farm.

British Poultry

Here is how the British poultry men are being admonished.

The President of the Board of Agriculture and Fisheries desires to call the attention of poultry-keepers to the following suggestions for economy in feeding stuffs, the necessity of which he has already pointed out.

In considering the desirability of any industry connected with the production



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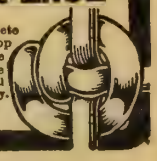
A Real Fence—Not Netting
Strongly made and closely spaced—making it a complete barrier against large animals as well as small poultry. Top and bottom wires No. 9—intermediates No. 12 wire—made by the Open Hearth process which time and other tests have proven to be the best. Send for catalog. Ask about our farm and ornamental fencing. Agencies nearly everywhere. Agents wanted in unassigned territory.
The Banwell-Hoxie Wire Fence Company, Ltd.,
Winnipeg, Man., Hamilton, Ont.



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Healthful, picturesque location 30 miles from Toronto.
Academic Courses from Preparatory Work to Junior Matriculation, Teachers' Certificates and First Year University; Music, Art, Oratory, Domestic Science; *Social Economics and Civics;* Commercial Work; Physical Training—gymnasium, swimming pool, etc.
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In the course of Nature your oldest son will inherit the farm—his future is assured.

GET A FREE HOMESTEAD

for the younger boy, and give him an equal chance in life.
Our "Homeseekers' and Settlers' Guide," to be had for the asking will tell you how and where.

CANADIAN NORTHERN RAILWAY

of food one criterion is paramount: Does the industry really increase the national food supply? When the poultry industry is tested in this way the following results are reached:—

An average pullet in the first 18 months of her life consumes 100 lb. of corn and meal, or their equivalent, lays about 180 eggs, and if killed weighs about 4½ lbs. The dry edible human food contained in her carcase and in the eggs she has laid amounts to about 6½ lbs., so that she has consumed about 15 lb. of corn and meal or their equivalent, for every pound of dry edible human food she has produced.

If the corn and meal she consumes are fit for human food then the result is to decrease the national food supply. If she is fed on scraps, waste, tail corn, or other materials not fit for human food, then the national food supply is increased.

The Poultry During Summer

The usefulness of a flock of fowls in an orchard is unquestioned. They consume by the millions bugs and worms that would otherwise injure the trees or the fruit. The trees furnish enjoyable, health-giving shade to the stock and the fresh, clean ground is a healthful exercising place.

If an orchard is not available, perhaps you can place the temporary chicken shed in a grove of other trees or in a protected spot on the farm and let the hens have free range of the place. They will scratch in the barnyard, find shade and chase bugs and insects in the corn field, capture grasshoppers in the fields from which the hay has been removed and in other ways live as nature intended they should.

If it is not convenient to furnish a summer shed for the flock, take the windows out of the henhouse and open the building up as much as possible so that the air can get in and pass through. Then open the yards and let the stock have free range, fencing in the garden if necessary. The poultry house should be thoroughly cleaned and well disinfected so that it may be as healthful as possible.

St. Agnes School for Girls Belleville Ontario

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VARICOSE VEINS, BAD LEGS, ETC.
are promptly relieved with inexpensive home treatment. It absolutely removes the pain, swelling, tiredness and disease. Full particulars on receipt of stamp.
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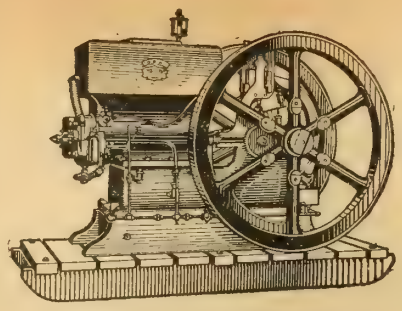
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Runs as smoothly on Naphtha or Coal Oil as on Gasoline

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No matter what fuel you use the "Brantford" will give you a maximum of power, and a minimum of trouble and expense. It runs right along day in and day out, doing its work quietly and effectively.

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The "Brantford" Windmill will give entire satisfaction. Always dependable.

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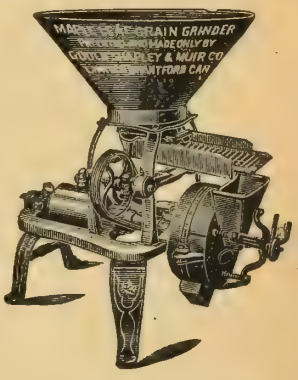

We would like you to have our catalog. It describes a number of labor-saving devices for the farm. You can always depend upon any machine that bears the name "Brantford."

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Preparation for the University and for the examinations of the Toronto Conservatory of Music.
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Fine location. Outdoor games and physical training.
The Musical Department (Piano, Theory and Harmony) will be under the direction of a Master, and of a Sister, who for twelve years taught in the School with marked success.
Voice culture will be in charge of a qualified mistress. College reopens Wednesday, September 12th.
For terms and particulars, apply to the SISTER IN CHARGE, or to THE SISTERS OF ST. JOHN THE DIVINE, Major St., TORONTO

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Music Art Household Science Physical Education
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Disposing of Poultry Manue

Before now farmers and gardeners have paid fifty dollars per ton for fertilizers that is not a whit more valuable than poultry manure. Yet this is a product that is sadly wasted on the average farm. If the poultryman decides to use the droppings on his own farm or garden, he will do well to remove the droppings every day and place them where they may dry. It is all the more effective use of the manure to place it directly on the land, but usually there is not enough available to follow this practice daily. When enough manure has been secured to make it worth while to draw it to the field, it is good practice to scatter it on the poorer knolls in the meadow to be devoted to roots in the following season. In this way nothing is lost by leaching while the knoll is toned up wonderfully. If the droppings are scattered among the cabbages or cauliflower, care being taken to avoid having the manure touch the plants, the resulting growth is both surprising and gratifying.

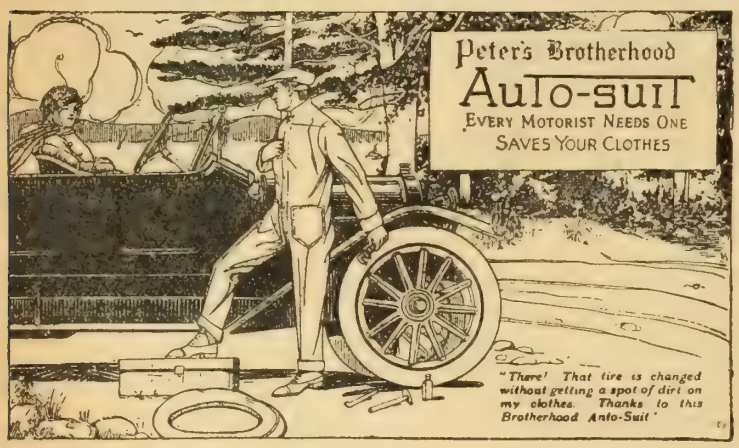
If the poultryman decides to sell the manure, he will need to thoroughly dry the droppings and then to advertise that he has such fertilizer for sale. He need not fear to ask a fair price, because if he has an article that is unfermented and dry, he will soon have a demand that he cannot begin to supply. Dry manure thus procured is invaluable for the greenhouse man who desires to make liquid fertilizer. The backyard gardener will find such fertilizer just the thing to give his early garden stuff a lively start, while the grower of small fruit will find that this fertilizer will give growth and vigor to his bushes.

Use Garden Sash for Sprouting Poultry Feed

Few poultrymen know the value of the garden sash for sprouting the grain to be fed to their fowl. The method that will give the most satisfactory results is to place the sash in a sunny locality and in the frame place dishes from one to two inches deep that will provide a daily ration. This will mean the use of seven boxes or dishes. Cover the bottom of the box with soil or gravel or grit of some sort to the depth of about half an inch. On top of this place the food necessary for one day's feed and cover with soil to a depth of about half an inch. Thoroughly soak with water, place under the glass, keep moist, and the sun will do the rest. As each dish is fed, replenish it and the supply will be kept during the season. As the cold season comes on, resort may be had to the furnace room. Oats or wheat or barley will be just the thing to keep the biddies busy and happy. In this way the best use is made of the grain while the fowl are furnished with the green food they so much require.

The housewife with a few hens in her backyard will find the sprouting of the grain in this way an important asset.—J. A.

Sore Eyes **Granulated Eyelids,** Eyes inflamed by exposure to **Sun, Dust** and **Wind** quickly relieved by **Murine Eye Remedy.** No Smarting, just Eye Comfort. At Your Druggist's 50c per Bottle. **Murine Eye Salve** in Tubes 25c. For **Book of the Eye** Free ask Druggists or **Murine Eye Remedy Co., Chicago**



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The Brotherhood Auto-Suit was originally made for motorists. But many farmers who are also motorists found it much better than anything they had seen for farm work.

The Brotherhood Auto-Suit covers you from neck to ankles. Can be slipped on over a business suit or worn with underclothes only.

Close-fitting sleeves and collar keep out chaff when threshing.

If your dealer does not keep the Brotherhood, use the coupon.

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Please send prices of Brotherhood Auto. Suits. My regular Dealer is

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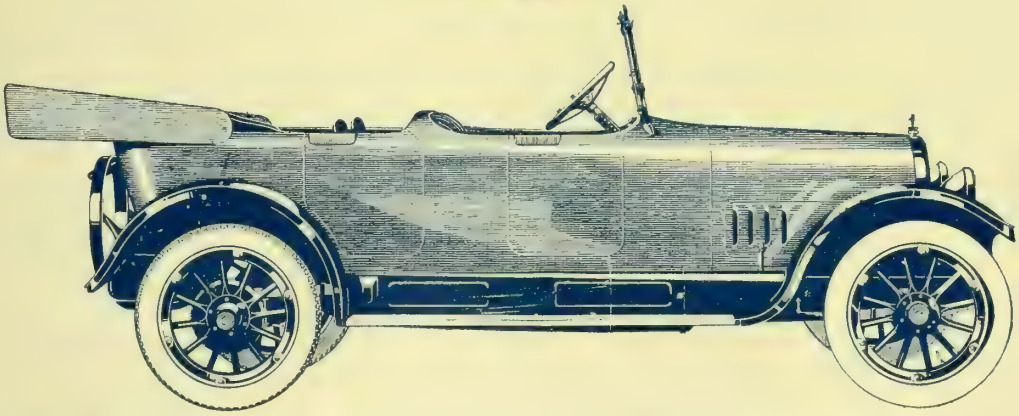

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Sturdy Light Weight---Abundant Power

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Here it is at last!

A popular priced *Light* Six with *weight and power in scientific balance.*

Think what that means.

Economy and durability in combination with six cylinder advantages at last an accomplished fact.

Don't ask any more why you can't get a durable light weight six with real six cylinder performance.

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By scientific designing with the aid of our great experience in building Sixes, we have produced a *lighter car* without sacrificing sturdiness.

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Quick as a flash on the getaway; speedy; surprisingly economical, yet with worlds of power and the sturdiness to support it.

Think what this means figured
—in greater gasoline economy.
—in additional tire mileage.
—in an easier car to handle.

Now let the Willys-Overland dealer demonstrate the wonderful performance of the New Willys Six—we want you to sense what this new balance between power and weight means in an economical, durable light Six.

We want you to know, too, what a wonder the New Willys Six is from the standpoint of easy riding and easy handling.

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45 horse-power
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When they both investigate the matter, find they have a big common need—good roads. Investigating further, they find they are also in accord as to the material of which those roads should be built. It is unquestionably CONCRETE.

The man-in-the-city and the man-on-the-farm are getting together on the road question. They are finding out that what is good for the one is good for the other. They are both beginning to realize that their greatest common need for greater prosperity is the building of more

Permanent Highways of Concrete

All Canadians will ultimately have to awaken to the true facts about Roads. They must eventually realize that our great national road waste is a criminal folly—that the money that now goes into the repairing of old-style roads would build hundreds of miles of Concrete Pavement which needs practically no repairs.

Modern traffic conditions, with the introduction of motor car and motor truck, are forcing these facts on our attention. Why, then, wait until we have thrown away more thousands? Why not at once arouse a nation wide interest that will result in the converting of our present wasteful, rut-filled, short-life roads into the hard, clean, durable roads which Concrete alone can give us.

A Pavement of Concrete is the only kind that will resist the wear of heavy motor traffic. It has a hard, even surface that is durable as nature's own rock. No holes or ruts will appear in it, no matter how heavy the traffic. It cannot turn to mud in Winter or even in the trying Canadian Spring. It cannot become a dusty road in Summer.

Is it any wonder that farmer and city-dweller always agree to invest their money in Concrete Roads, when the true road facts are brought to their attention?

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We will send to anyone who asks us, several interesting books on the subject of Concrete Highways, supporting our claim to the following advantages:

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5. Concrete Roads are quickly cleaned by rain.
6. Concrete Roads help to keep down the cost of living, by reducing the hauling cost of farm produce.
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10. Concrete Roads give service 365 days in the year—they are always "navigable" even in the depth of Winter and in the Spring.

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AUTUMN PLANNING NUMBER

FARMER'S MAGAZINE

Volume X Number 11

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If you cannot go to war, go to the Ontario Agricultural College. You will help yourself, your farm and your nation by studying the best farm methods during the fall and winter months at the **Ontario Agricultural College, Guelph.**

You can attend College because:

Only Public School education is necessary for admittance.

The College year commences Sept. 21st and closes April 15th, in order that students may work at home during the spring and summer.

The tuition fees for Ontario students are only $20.00 a year and board is secured at the low rate of $4.00 a week.

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All first year students are paid for the work they do on the farm. This helps to pay expenses.

If you wish to take the four-year course for the Degree of B.S.A., matriculation standing is not necessary.

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We Live in Perilous Times

None realize it more than the Ontario farmer. His is one of the three principles of defence upon which all others rest and he is putting forth every effort to safeguard the nation. *Nothing will assist him more in this noble work than to send his son to the college for one winter or more.* He will gather ideas and information which will stand for greater enthusiasm, the latest practical methods as proven by actual experience, and bigger and better crops from the old homestead.

This will increase the farm produce and profits, not alone; it will develop the young man himself. *Give him his chance.* Let him get out to rub shoulders with other young men from all parts of Canada. It will broaden his viewpoint and will hasten the development of a fine, strong, intelligent manhood. The Provincial Government makes it as easy as possible by keeping the expense at an extremely low figure. The outlay will be repaid a hundred fold. *We must organize for success after the war.* A scientific agricultural education will pay the young man and it will pay the nation.

The College Opens Sept. 21st, 1917
Closes April 15th, 1918

The two winters' course includes instruction in—varieties and culture of all farm crops, care and judging of all farm stock, farm dairying, poultry raising and vegetable growing, farm surveying and drainage, road making, farm bookkeeping, carpentry and blacksmithing, farm water supply, veterinary treatment, soils and fertilizers, bees, extermination of insects and plant diseases, eradication of weeds. English literature and composition, public speaking, etc., etc. The whole course treats of subjects which are of practical interest on every farm. *The result is a practical education which can be applied to all farm work.*

Learn more about the courses which the college offers. Write the Ontario Agricultural College, Guelph, for a College calendar which gives full information. It will be mailed immediately on request. Mention this advertisement.

Ontario Department of Agriculture

Parliament Buildings - TORONTO

SIR WM. H. HEARST,
Minister of Agriculture

DR. G. C. CREELMAN,
Commissioner of Agriculture

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Monarch-Knit Hosiery has that richness of appearance which the modern woman admires, and yet is not costly. Our selection of yarns and perfect knitting gives a durability that is satisfying thousands of wearers of "Monarch-Knit" Hosiery.

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ANNOUNCEMENT

Eleven years ago a few enthusiastic farmers of the West organized a small grain commission company in the hope that they might improve conditions under which grain was sold in Western Canada. They worked under handicaps and against heavy competition, but succeeded. Later, other organizations were formed in Canada, each with co-operation the keynote. What they have achieved is well known. Soon there was a demand for closer co-operation among these companies in their business efforts, and now—on September 1st, The Alberta Farmers' Co-operative Elevator Company Limited and The Grain Growers' Grain Company Limited will no longer be separate organizations as heretofore.

By a practically unanimous vote of their thousands of shareholders, these companies have joined hands so that they can work together in the interests of the farmers of Western Canada. The problem of marketing the products and supplying the needs of the farmers are identical throughout Manitoba, Saskatchewan and Alberta. This union of the two old companies with shareholders running well over 30,000, with assets exceeding $3,000,000.00, with over 300 country elevators, with terminal elevators at Fort William and Port Arthur, with machinery and supply warehouses in Calgary, Regina and Winnipeg, and with an efficient organization under the supervision of a board of farmer directors having full knowledge of the farmers' needs, provides a company that can give maximum service to Western farmers. The old companies have appreciated your business and they will be very glad to serve you in the future under the name of—

UNITED GRAIN GROWERS LTD.

WINNIPEG — REGINA — CALGARY

Let any of our 300 elevators handle your grain or consign it direct to us. Ship your Livestock to our stockyard offices in Edmonton, Calgary or Winnipeg. Order your Lumber, Fencing, Implements and other supplies from Winnipeg, Regina or Calgary. We have offices and warehouses in all three cities.

Guaranteed NOT BLEACHED—NOT BLENDED.

Children love Jelly Roll just like *this*—

—baked from FIVE ROSES flour
—therefore an enticing oval lined with fresh jelly.
—with a bright, well-risen crumb that is soft, and spongy, and yielding.
—light and daintily digestible.
—and, above all, so amazingly alluring without a crack, or break, or seam to mar its exquisite smoothness.

The strength and fineness of FIVE ROSES flour hold the batter together in the long, well-greased pan, promising a uniform raising in the oven. Its elasticity allows the quick, faultless rolling so essential.

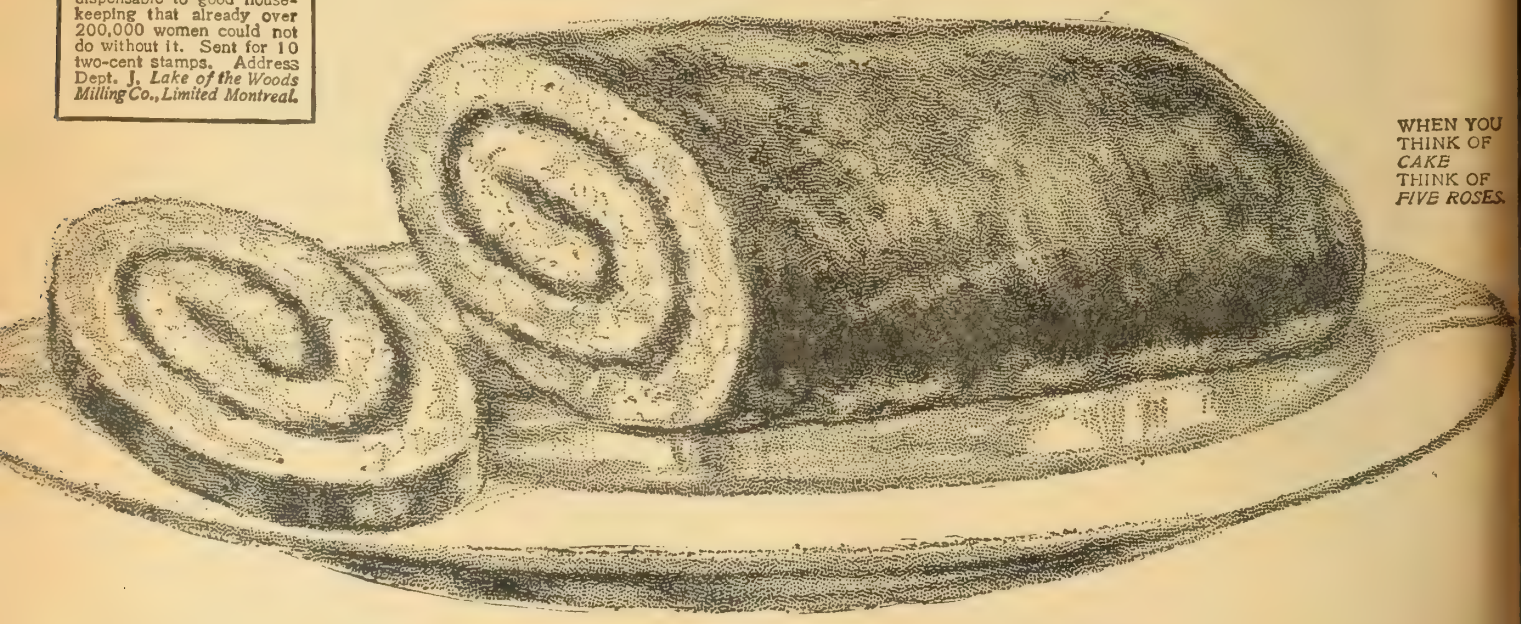
In fact, all housewives eager and ambitious to excel in culinary art should adopt FIVE ROSES for all cakes, puddings, pastries and bread. It is fast becoming the household word for flour, so well liked that it far outsells any other flour made in Canada.

See that you *get* the flour you ask for.

HOW TO ROLL A JELLY ROLL

So that it can't break.

This, and many similar problems, together with over 200 tested cake recipes, also pages on bread, pastries, puddings, etc., all within the covers of the famous FIVE ROSES Cook Book. So indispensable to good housekeeping that already over 200,000 women could not do without it. Sent for 10 two-cent stamps. Address Dept. J, *Lake of the Woods Milling Co., Limited Montreal.*



WHEN YOU THINK OF *CAKE* THINK OF *FIVE ROSES.*

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WOMAN AND THE HOME

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The FARMER'S MAGAZINE

Volume X TORONTO, SEPTEMBER, 1917 Number 11

An Agricultural Crime

By F. M. CHAPMAN

IT is just three years ago since the great war broke out. Canada realized at once the need for her troops overseas. Everybody, also, turned their eyes to the wheat granary, for it was realized by all that there would be a terrific strain on the food resources of the world, as millions of producers continued to drop the arts of peaceful production, the fact of the depleted ranks of the world's food suppliers burned into the minds of the agricultural departments, provincial, federal and national.

That officialdom did awaken to the fact is evidenced by the mass of exhortatory literature that has flown farmwards ever since. Duplication and reproduction mattered not. Organizations of many kinds, commissions, farm bureaus, and the various divisions of the minutely organized departments of agriculture, were feverishly busy—*advising.*

WHAT A LIVE AGRICULTURAL LEADER COULD DO NOW.

Use the discharged munition workers in operating the tractors already in the country, many standing idle.

Make every available engine draw a gang of plows, preparing for fall and spring crops.

Pay the wages to the men that will induce hundreds to apply at once. Run the tractors in double shifts, night and day, with acetylene headlights.

Speed up the manufacture of tractors and get deliveries faster.

Establish short course tractioneering schools at every experiment station, college and county town.

Carry the necessary phosphates to the country points where fall wheat is sown and finance them as low as possible.

Plow the land as never before. Farmers are calling for this assistance.

Give a bounty, if necessary, to cover labor costs of men breaking or guarantee a price for 1918 wheat.

Walk into the situation as a competent general with a big proposition. if the need of food is not a myth Do the thing.

Sweep aside a great deal of this official duplication, red tape and cumbersome departmental machinery.

God has given us a soil unequalled anywhere, a climate and natural advantages almost Utopian. Man is the weak spot in the link. O ye agricultural leaders of little faith, wherefore doubt!

What has been done? How have we shown up at the end of the third year in our total returns of field crops and animal produce? Had a kind Providence not showered on us, in 1915, one of the greatest harvests in recent times, even to the extent almost of the miraculous, and have kept up the normal in each succeeding year, where would all our urgent exhortings have been? And what about 1918, the year that will see the world nearest to the starving point since the time of the Ptolemies.

Practically there is nothing done. Incapacity, bustling from one proclamation to another, draws nothing big but its salary The excuse for inaction cannot be hidden under the creation of new offices to handle the situation. Farmers and everybody are sick to nausea of advice. Producers have done wonderfully well this year. No one who knows what is going on in the big open spaces of the whole country can question the patriotism of the farmers.

Talk is cheap, and plans are as numerous as the sands, but it takes man power, horse power, up-to-date machinery, mechanical power, soil fertility, good seasons and markets, that are not here to-day and gone to-morrow, to greatly increase the nation's food supply. Foremost of all what is wanted is *leadership* in this agricultural wilderness. Something ought to be done, in a big statesmanlike way to markedly increase the production of the chief food crops, such as wheat, oats, rye and beans. And be done now.

It is criminal to expect these extra supplies to come out of a soil that needs the fertility of phosphates and potash in many cases; out of a depleted man-power on the farm, out of a low equipment of mechanical power, with the ever hovering bogey of uncertain prices before the producer, without the active intervention of the state in the controling of transportation, in the marshalling of power machinery into the fields, or the turning of skilled labor into the work. A state justifies itself only by serving all its people.

The getting of food supplies is as amenable to the laws of cause and effect as is the over-supplying of shells. We get what we go after—*in the right way.* We can get the wheat if we want it. Lloyd George is getting it. And that, without the farmers standing to lose out. In Canada, we have as every student of agriculture knows, an enormous capacity for production of a variety of human food of the highest quality. Millions of acres of the finest fertility out-of-doors are scattered, in big stretches, all over this great country. We very much doubt whether there is a land under heaven that surpasses or even equals its unfailing annual output. For any department not to consider the problem of such importance, as to putting business acumen, and energetic accomplishment at the task is nothing short of criminal. Surely it is not too late yet for the Dominion Department of Agriculture to shake itself free and to get something done.

Continued on page 17.

Planning a Year Ahead: By Dr. C. A. ZAVITZ

From a Material Standpoint Agriculture Counts as First Essential to Humanity. Some Pointers for Success

Photo by Sallows.

A Typical Canadian Farm House—the real basic strength of Canada as a National force.

THERE was probably never a time in the history of Canadian agriculture when it was so important to systematize and economize all the agricultural forces. The world is calling for a greater supply of essential food materials. It is estimated that sixty million people are now engaged in war operations. A large percentage of that number has been drawn from agricultural pursuits. The proportion of non-producing consumers over the producers has been greatly increased. Great areas of country are being devastated and *large quantities of food are being lost in transportation.* Undoubtedly matters are *very serious,* and if starvation is to be avoided in certain parts of the world the resources of the country must be utilized to the best possible advantage. Canada is a young country of great opportunities, and this is a time when she will be severely tested. Agriculture, with all its advantages, has numerous discouragements. It requires knowledge, good judgment, forethought, system, skill, perseverance and close application on the part of the farmers to secure the best returns from the fields, the flocks and the herds. *There are many heroes, and but very few slackers or weaklings on the land.* Agriculture forms a basis of all industry, and crop production is the basis of agriculture. Without crops we cannot have livestock, and without crops and livestock people cannot exist. The present state of affairs is compelling people to give more thought and attention to essentials, and less attention to non-essentials. *From a material standpoint, agriculture is, perhaps, the greatest essential to humanity.*

DECREASES IN ONTARIO.

The food supply of a country is determined largely by the intensity of its agriculture. As a rule the older countries of the world, where labor is plentiful, carry on more intensive lines of farming than the newer countries. The intensity of agriculture is indicated by the application of much labor and of costly fertilization.

Perhaps there is no name more of a household word in agricultural Ontario than that of C. A. Zavitz, the author of this article. A close student of field crops, ever watching for a new plant or a selection that will mean much for the province, he has already been the means of increasing the grain yields of the province by several wise introductions. And he is no impractical theorist. No man is more alive to what farming means or what the man on the farm has to contend with. He is therefore the right man to urge as he does here, an increase of the farm returns by certain wise plans.—EDITOR.

Some crops such as pasture, hay and oats, require a comparatively small amount of labor, while other crops such as beans, sugar beets, potatoes, turnips and corn require more labor, but produce much higher returns from the land. Over one-half of the cultivated land in Ontario is now in grass, and *during the past four years the grass lands have been increasing at the rate of over one hundred thousand acres annually.* During the same period there was a decrease in the acreage devoted to the cultivation of beans, potatoes, husking corn, turnips, mangels and carrots, and there has been no appreciable increase in live stock, in fact according to the Dominion statistics there has been an actual decrease in Ontario of cattle, sheep and swine.

It is estimated that on the average it requires about eight or ten acres of pasture land to produce as much real food material in the form of meat or milk as is obtained from one acre of beans, three-quarters of an acre of potatoes, or three-fifths of an acre of turnips.

Undoubtedly, the lack of skilled labor is a serious question in connection with Ontario's agriculture at the present time. *There was probably never a period in which system, forethought, and careful planning in regard to farming operations counted for so much as they will during the next few years.*

DIVERSIFIED FARMING.

Ontario is peculiarly well adapted to the production of a great variety of farm crops and of livestock. Crops of high perfection can be produced for home consumption, for export, or for feeding to farm stock. From extensive surveys which have been made in the northern part of New York State it was found that the highest profits were made by combining cash crops with stock and stock products. *Neither the straight stock farm nor the crop farm paid as well as a well-balanced combination of the two.* The conditions in Ontario are much the same as those in northern New York. It is considered by livestock authorities at the present time that in spite of the high price of feed stuffs the livestock should not be allowed to decrease, but should be kept at about its present proportions. It is probably true that instead of endeavoring to increase to any great extent the livestock of the province special efforts should be put forward to improve the quality by retaining for breeding purposes the animals of the highest quality. Good animals are as easily maintained as poor ones, and high perfection should be the special aim at the present time. With the understanding, therefore, that the numbers of the different classes of livestock are for the next few years to be kept about normal we have a basis on whch to plan our farming operations. This indicates the fact that if we are to increase the output of the farms of Ontario very close attention will need to be given to the growing of those classes of crops which will not only furnish the best supply of feed to farm stock, but which will supply directly large quantities of essential food materials for export, as well as for home consumption.

FARM CROPS FOR HUMAN CONSUMPTION.

In addition to vegetables, a few farm

crops are grown in Ontario which can be used for culinary purposes without being specially manufactured into products for table use. These crops include beans, potatoes, turnips and carrots. A number of other crops are used for human consumption after they are manufactured into various articles of diet. In this list is included wheat, rye, buckwheat, oats, barley, peas, corn and sugar beets. The twelve classes of crops comprising these two groups are of great importance, as any of them can be increased in a comparatively short time. It is exceedingly important to make as definite plans as possible regarding the classes of crops which are to be grown. *In making the selection it is necessary to take into consideration the amount of labor available, the adaptability of the land, the division of labor throughout the year, the most urgent requirements of food material, and in fact a number of other points.*

DIFFERENT CLASSES OF FARM CROPS.

In each of the past sixteen years leading varieties of oats, barley, spring wheat, field peas, spring rye, hulless barley and emmer have been grown in the experimental grounds at the Ontario Agricultural College under uniform conditions of soil and climate. The object of this experiment was not so much to compare one variety with another as to secure different classes of farm crops. As the experiment was carried on in duplicate in each of fourteen years it will be seen that we have the results of twenty-eight separate and distinct tests conducted in the fourteen-year period. In some years the experiment was conducted on high land, in other years on low land, and in others upon land which had a gentle slope; in some seasons facing the northeast, and in others, the southwest. On no occasion was this experiment conducted on heavy clay or on light sandy soil.

The following table gives the average annual results, in yield of both straw and grain per acre, for each of the seven crops grown for fourteen years:

Class of Crops.	Tons of Straw.	Pounds of Grain.
Barley	1.7	2,577
Emmer	1.9	2,509
Oats	2.2	2,503
Hulless Barley ..	1.7	2,326
Spring Wheat ..	2.1	1,883
Field Peas	1.5	1,772
Spring Rye	2.0	1,662

These results show that barley is a heavy producer of grain, and that spring rye gives on an average fully nine hundred pounds of grain per acre less than barley, under uniform conditions.

In another experiment which has been conducted in duplicate in each of the past two years, the following average yields per acre have been obtained from certain varieties representing different classes of farm crops:

Varieties.	Lbs. of Grain.
O.A.C. No. 21 barley.....	2,921
O.A.C. No. 72 oats	2,831
Common Emmer	2,821
Guy Mayle barley	2,541
Wild Goose spring wheat...	2,133
O.A.C. No. 61 rye.....	2,035
Early Britain peas	1,963
Red Fife spring wheat	1,887

In this test we again find that the barley heads the list in yield per acre, the average annual yield being over ten bushels per acre greater than that of the Red Fife spring wheat.

In comparison with the results obtained at Guelph it is interesting to study the relative yields of the different classes of farm crops throughout Ontario. There is probably no province in Canada, or no State in the American Union, which has a better statistical record in regard to crop production than has the Province of Ontario. This information has been collected systematically in each of the past thirty-five years. From a study of the reports of the Bureau of Industries for Ontario we find that the following figures represent the average number of pounds per acre of each of the principal cereal crops as grown in Ontario for a period of thirty-five years, the grains as here presented being arranged in the order of productiveness:

Crops.	Lbs. per Acre,
Barley	1,344
Fall Wheat	1,278
Oats	1,210
Field Peas	1,146
Field Beans	1,002
Buckwheat	979
Spring Wheat	966
Rye	924

It will be seen that the results at the College and throughout Ontario correspond very closely in comparative productiveness of the different crops. Of the important food crops, winter wheat stands very high in productiveness.

PLAN NOW FOR 1918

Having determined approximately the number of live stock which is to be kept on the farm, and having a knowledge of the comparative productiveness of the different classes of farm crops, a good basis is formed for planning operations for the future. It is well, in connection with farming, to gradually readjust operations to meet changing conditions. The urgent demands at the present time are for food materials, and particularly for the purpose of export. Special attention at the present time should be given to the production of meat, cheese, wheat, beans and peas for export. These are all concentrated food materials containing high percentages of digestible nutrients. In addition to the above, a good acreage of potatoes and turnips for home consumption will tend to reduce the high cost of food materials and to relieve a large proportion of the other materials for export. Oats are already grown more extensively in Ontario than all other cereal crops combined. It is not necessary to increase the acreage devoted to the oat crop in order to increase the output of oatmeal enormously. It is not necessary to grow a larger area of barley except as a feed for live stock. *It is probably safe to say that the two most important crops which can be increased in Ontario for export trade, under present conditions, are wheat and beans.*

AIM AT ONE MILLION ACRES OF WINTER WHEAT.

The average annual number of acres of winter wheat in Ontario during the ten years previous to 1917 was slightly over 700,000. When we take into consideration the high average yield per acre of winter wheat in comparison with other crops, and the urgent demand for a large supply of wheat for export purposes, should it not be the aim of the Province of Ontario to sow one million acres of winter wheat this autumn? As it is probable much of the winter wheat will be sown by the time that this article appears it would be unwise to make suggestions regarding the preparation of the land, etc. Experiments show that as a rule the winter wheat which is sown during the first ten days in September is apt to give a little higher yield per acre than that which is sown later in the month. In favorable seasons, however, winter wheat may be sown even in the latter part of September and give very good results.

If the weather is unsatisfactory for the sowing of a large acreage of winter wheat this autumn, winter rye might be sown to good advantage as it is exceedingly hardy and will stand even later sowing than winter wheat. At the Ontario Agricultural College four varieties of winter rye have been grown under experiment for fourteen years in succession. The average results have shown that the annual yield per acre of the different varieties has been between 53 and 57 bushels per acre, which is somewhat higher than

A good country road with a splendid avenue of maples. Were all public roads bordered with suitable trees, our land would produce better.

the average yield of winter wheat. By sowing as large an acreage as possible of winter crops the labor situation will be greatly relieved in the spring.

PLOUGH LAND THIS AUTUMN.

Experience has shown that for most crops land which is ploughed in the autumn gives better returns than that which is not ploughed until spring. It is, therefore, exceedingly important that at this crisis in particular as much of the land as possible, especially of the old timothy sods, should be ploughed this autumn in preparation for spring cropping. Although the latter part of autumn will likely be a very busy one on the farms of Ontario, opportunities should be watched to get as much ploughing done as possible, especially after the rains, when it is sometimes difficult to work at other things. The use of the tractors in different parts of Ontario will help the situation somewhat. If sod land is ploughed in the warm weather so as to enable decay it is a good plan to spread any available manure on the surface, and to place the land into ridges about thirty inches in width by the use of either a single or a double mould-board plough, and thus place the land in a very suitable condition to preserve soil fertility in the ridges, and to enable the frost to act on the subsoil in the furrows, and thus fit the soil admirably for early spring cultivation.

If stubble land is not seeded with grasses and clovers it should be cultivated on the surface as soon as possible after harvest so as to permit the germination of the scattered seeds of grain and weeds, and thus form a green growth which could be used for pasture or as a green manure before the land is ploughed in the late autumn.

GET EVERYTHING READY IN WINTER FOR SPRING OPERATIONS.

It is exceedingly important when planning for a year's operations on the farm to make the best possible use of the winter season in preparation for the summer's work. Having decided the acreage to be devoted to each class of farm crop, attention can be given to securing the varieties which are likely to give the highest returns. If home grown seed is to be used, and especially if it is to be secured from the grain, the bulk of which is to be fed to farm stock, great care should be taken to obtain, by means of the fanning mill, the very best quality of seed from the bulk lot. This might be forty, twenty, or even as low as ten per cent. of the crop. Few people realize the great importance of seed selection. If seed grain has to be purchased it should be secured quite early in the season while there is an abundant supply. If the work of purchasing seed is considered early it gives a much better opportunity for securing samples and purchasing seed of high quality. Even after the best seed obtainable is secured it might be an advantage even to clean that seed so as to remove any objectionable grains.

As the result of experiments which have been conducted at Guelph in rather an extensive way it is learned that on the average large, plump seed gives an increase over small, plump seed, in bushels of grain per acre, as follows: Oats, 15.4; winter wheat, 6.5; barley, 3.4; spring wheat, 3.7; peas, 5.1; and rye, 3.0. Plump seed has given an increase over shrunken seed of 7.8 bushels per acre in the case of barley, of 5 bushels per acre in the case of spring wheat, and of 7.8 bushels in the case of winter wheat. *If the best results are to be obtained it is necessary to sow only large, plump, sound seed of strong vitality, and which is well matured.*

START WORK ON THE LAND EARLY IN THE SPRING.

Everything should be in such readiness that work can be started in the spring of the year as soon as the land is ready. It is exceedingly important to sow the grains at the right time for maximum returns. An extensive system of experimental work conducted at Guelph over a period of years shows the importance of sowing spring wheat, barley, oats and peas in the order here indicated, and having all these classes sown as nearly as possible during the first week or ten days in which operations can be carried out. The results of the experiments show that for every day's delay in the seeding after the first week has passed in which the seeding took place there was an average decrease of nearly one and one-half bushels of oats per acre, of practically one bushel of barley per acre, of one-half bushel of spring wheat per acre, and of one-third bushel of peas per acre. Spring rye might be sown immediately after the other four grains here referred to. Mangels and sugar mangels should be sown as soon as the danger from frosts is past. In most years potato planting takes place in the third, and field corn in the fourth week of May, and beans from the first to the tenth of June. If turnips are sown about the twentieth of June they are apt to miss the fly, and are not so likely to be injured from the plant lice as is the crop from earlier sowing. Turnips thrive admirably in cool weather and usually have less fibrous material than if sown early and grown in the heat of summer.

If proper preparations for the summer work have been made in the winter, and all crops sown at or near the right dates as weather conditions will permit, each crop develops in its natural order and the cultivation, the hoeing, the haying and the harvesting are distributed throughout the whole season.

Farmers as Community Builders

By S. S. DUNHAM

A Member of the Executive of the United Farmers of Alberta.

THE tendency of the farm is to produce strong individuals. The farmer is thrown continually upon his own resources. Within his own surroundings upon his own farm he is "Lord of all he surveys." The whole life is towards individual endeavor, individual independence, the result is strong individuality and wonderful individual resourcefulness. If a farmer gets into a mudhole, he begins at once to plan how he can get out, and he usually succeeds of his own endeavor. If a farmer has no house, and he has no carpenter to build one, he will build it himself. It may not be a fine house, but it answers the purpose. He is individually resourceful and it would be difficult indeed to find any class of persons that surpass farmers for individual strength, physically, mentally or morally. But the very strength that his surroundings develop for him individually, lessens the necessity for him to act collectively and makes him weak in that capacity. Community building requires collective effort. In comparison with his other qualifications the farmer is a poor community builder. Therein lies his weakness, and therein lies one reason why the farmer's boy and the farmer's girl continually long for the apparent attractions of urban life.

When Nehemiah rebuilded the walls of Jerusalem, it was a community affair, he set every man to building "over against his own house." Why, if there was a particularly good piece of wall built it was easy to find the builders, they lived in that particular part of the town, and if there was a poor piece of wall built or a gap in the wall, it was easy to find upon whom the fault lay, they lived there.

In this day of improved roads and automobiles, of consolidated schools and rural mail delivery, of rural telephones and modern rural homes, of the summer Chautauqua, and above all of the local units of farmers' organizations; there is no reason why:

1. The farm home should not be the most desirable home;
2. The farming community, the best place to live and raise and educate the family;
3. The rural life should not become an enjoyable as well as a profitable life if —if what? If the farmer can reverse the whole tendency of his life and become a community builder, become—strong collectively as well as individually.

Our plan then for the next year should not omit plans for a live local farmer's organization. By this means we have the key that opens the door to the other things desirable in the neighborhood:—better schools—consolidated school if necessary, rural telephones, rural mail delivery, yes, a summer Chautauqua and things that tend to make a farm life a real life. When a rural community has those things, they not only tends towards better farming, more production, more thrift, higher intelligence, more patriotism, but the farmer's life becomes real life, and instead of being continually drained of its most enterprising young men and women it becomes attractive, and those who are in it are more apt to stay, and others are induced to join it.

When all of this has come about, there will be no trouble about production. When the farm life is made attractive, and when the farmer gets what justly belongs to him, production will take care of itself.

But to my brother farmers, I would say that it is only by collective community action that we can get what is justly ours, financially, politically or otherwise. The farmer's organization is the great "wall," that not only makes our farm lives desirable and productive, but protects us from those that prey upon us from without. This wall in many places either does not exist or it is in a very defective state. To each of us therefore I would ask. Is the "wall" in our particular locality in good condition? Are we building upon the "wall"?

Dairying in 1918 Needs You

Some Ideas on How to Overcome the High Price of Feeds and Labor

W. H. Lobb's herd of Holsteins at Holmesville, Huron Co., Ont., one of the most up-to-date farms and farm houses in Canada.

Hyland Lake Farms

How the Owner of this Farm is Looking Ahead.

By R. W. E. BURNABY

I AM planning to do all I can to get dairy farmers and breeders to see the outstanding qualities of Holsteins, in my way of thinking, the greatest breed of cattle in the world. Surely this statement is justified when all world's records for both butter and milk for seven, thirty, sixty, ninety, one hundred days and for one, two and five years are all held by the Holstein cow.

During the summer it has been my privilege to visit a great many dairy herds both grade and pure-bred, and I have been impressed with the desire of almost every owner to reach a higher standard of production through the process of "breeding up." This is done by the use of a *good pure-bred sire* and the disposing of the unprofitable cows. In a few cases, are to be found dairymen working under the false impression that as long as their herd sire is a pure-bred they are grading *up*, while in many cases they are actually grading *down*. For example, one man has as fine a herd of grade Holsteins as it has been my privilege to see and yet his herd sire, a pure-bred, is from a cow that would not pay for her own feed, in fact her owner sent her to the butcher because he could not make her produce four thousand pounds of milk in a year. Further inquiry proved that this kind of bull was bought, because at the time he looked cheap. I feel quite sure he will prove very expensive to his owner, a poor advertisement for the breeder that sold him and for the breed.

I am planning to use my influence among the Holstein breeders with whom I come in contact, to send such bulls to the butchers as calves and to encourage dairymen and breeders to always buy the very best bull they can afford. In most cases *a good bull* will pay for himself in one year through the extra quality of his offspring. The conclusion then is to be sure both as dairymen and breeders that we are breeding or grading up not down and the only way to be sure is to have a sire with official records back of him better than the cows you breed him to.

I am planning to use the very best sire possible and have chosen Avondale Pontiac Echo, a son of May Echo Sylvia, the world's record cow for milk production and Canadian record for butter. I am planing to officially test every cow in the herd so that a buyer will know when buying her offspring either male or female exactly what he is getting. I do not intend him to be satisfied with a statement that she is a good cow. I want him to know just *how good.*

My farm is conducted on the principle of selling only the manufactured article, no raw material is sold. Everything is fed to Holsteins of merit and only cream and stock are sold. I believe as a breeder of breeder's stock that it pays to separate the milk so as to have the skim milk for the calves. I know of no satisfactory substitute for this valuable food for young calves, it gives the size and quality that no other combination of feeds will give.

I am planning to do what I can in the promotion of the farmers' clubs or co-operation idea, for both buying and selling. We also intend in our local club to take up such questions as the feeding value of the various feeds with the idea of knowing what is the most profitable balanced ration to feed. We want to know. The time of guessing at such things is a time of the past.

The Woman and the Milk Pail

The Author of a Leading Dairy Book Speaks on the Situation.

By LAURA ROSE STEPHEN

I REMEMBER at a large meeting I was addressing on Dairying, being asked "How should a cow be milked?" Quickly, half in jest and half in earnest I answered "Always by a man"—I have ever contended that in the majority of cases women should not be expected to milk. The milking hour both night and morning comes at a most inconvenient time for women—children to dress and care for, the breakfast to get ready, then in the afternoon the women folk like to be tidied up and there is the supper to get. But in these times everything has to be re-adjusted—we must break down the walls of prejudice we have built through the past years, of what was proper in the realm of women's work. Rural women were becoming more ensconced each year within the four walls of their homes, in many cases being entirely removed from every phase of dairy work. The long row, field-method of cultivating the vegetables relieved them of the care of the home garden. All attention was

centering about the home, and hours were spent in making everything to match for the spare room, embroidery and crochet adorning every possible thing of utility or beauty or uselessness. *There was a grave tendency of going to extremes, of ruining the sight and the nerves over fine work. There was a possibility of having the breach between the practical and the artistic too wide.* Personally I hesitate to wipe on an elaborately embroidered, lace befrilled towel—and search about in the hope of having my eyes light on a good plain huckaback towel. The labor problem has brought in speedy changes of opinion as to what women should do. All honest work to me has ever been honorable and to day "To work," "To work" in fields of usefulness is the call which should find response in every patriotic heart.

Men are scarce and may be scarcer on our farms before the war is over but the products of our farms must not diminish. The number of cows should rather increase than decrease,—and what does that imply? It means women must enter the barns with the milk pails in their hands. The women and the cow through all history have ever been associated, and it does seem rightfully so. The human mother and the foster mother of mankind should get along together, and so they do. Cows thrive on gentle treatment. Their nervous, sensitive nature shrinks from harsh blows—even from coarse loud talk. Women are by nature more gentle than men.

Dairying seems more fitting to women than working in the fields. There is no phase of dairying that women cannot successfully undertake and make a good living from it. Milk, cream, butter, cheese all sell at high prices and these prices will likely be maintained for some time. *If one can do the work oneself, the cost of help does not figure as such an item in reducing the profits; pasture is no dearer now than formerly; the abundant crop of excellent hay will lessen the feed bill, so the outlook is bright. The prospects for the dairy business were never better* and as a means of revenue should appeal to women. "Back to the Land" should be read by many of our rural women as "Back to the Dairy." Let some of the non-essentials in the house go, don the overalls, or bloomers and low-heeled thick soled boots and go forth to do a woman's part in helping to feed the world.

I am rejoiced to know that women who do work necessitating freedom of limbs, have been emancipated from the thraldom of skirts. It is right and proper we should be clothed in a manner that permits the greater freedom for the work being performed. The skirt in the dairy barn is an unsanitary nuisance. A middy and bloomers or overalls and coat make a woman happier and more willing to perform such labor.

We feel many a farmer's daughter will see the present grave need of their cooperation in keeping up the dairy industry, and with a song on their lips and a pail in their hands will go forth to do a man's work in a womanly way.

Dairy Cattle and Milk Production

Dr. Eckles recommends the following amounts for summer feeding of dairy cows:

Jerseys or Guernseys producing:—

20 lbs. milk daily	3 lbs. grain
25 lbs. milk daily	4 lbs. grain
30 lbs. milk daily	5½ lbs. grain
35 lbs. milk daily	7 lbs. grain
40 lbs. milk daily	8 lbs. grain

For Ayrshires and Holsteins producing:

25 lbs. milk daily	3 lbs. grain
30 lbs. milk daily	4 lbs. grain
35 lbs. milk daily	5½ lbs. grain
40 lbs. milk daily	7 lbs. grain
50 lbs. milk daily	9 lbs. grain

After the pasture begins to decline it is especially necessary to do some barn feeding. The most critical time occurs when there is the greatest heat and flies are the most numerous. At this time a convenient supply of feed must be had or the cow will decline in flesh and production. This would be almost disastrous to future prospects if not met with proper feeding. For this condition some have raised crops for the purpose of cutting green, to feed in the barn. A cow will make use of 30 to 50 pounds of this feed to good advantage. Soiling, as this practice is called, has some disadvantages chief of which are the trouble and cost of harvesting and the difficulty of having the crops come on at the proper time and amounts, due to seasonal factors. They will also impart flavors to milk, especially when fed just before milking.

On account of some of the disadvantages of supplying green feeds daily the practice of using silage at this time is increasing in importance. For this purpose the legume hays, especially when mixed with other grasses or cereals, are finding favor. Corn is the silage crop of most commendable qualities and especially when a summer silo is built, it is coming into common summer use.

There is also a period in the fall before cows are kept in the barn when most pastures are so short or dry that good barn feeding is essential to securing good results. The pasturage at the time approximates dry hay in composition and owing to its character cannot be consumed in large amounts even when abundant. Some nutritious feeds should be supplied and if corn silage or a feed of this character is not supplied, the grain mixture should contain a good proportion of feeds of a laxative nature. An error committed by many is failure to get their cows on a proper ration before they have gotten thin in flesh and the milk has declined, not to be returned to its maximum during that lactation.

On Hector Gordon's fine farm at Ormstown, Que., showing a few of the fine Ayrshire herd.

Economics of Cattle Feeding

Some Ideas for the Man Who is Making Money Out of Beef Cattle

By GILBERT GUSHER

Beef men are keeping their eyes on their "cost mark" as never before. In the old sense, cheap elements in beef production are gone. The advancing cost of every item of raw material is not counterbalanced by an advance in price of the finished article. Selling prices are not in the hands of the individual producer. Accordingly, there is but one recourse for those who feel the need for cashing in more heavily on their efforts, namely, to practice true economy in every step of the process.

Possible economies in management aside from feeding and breeding problems, are numerous and far-reaching. Some involve the whole round of the farmer's work, while great economies may be made in seeming matters of detail.

Paved lots which at 75 cents per square yard have paid for themselves in three years, are a wise economy in investment which seeks the largest returns from the outlay. The handling of animals in carlot numbers at least is more economical of labor, freight costs and in the purchase of supplementary feeds than handling them in smaller numbers.

Manifold opportunities to be thrifty and frugal in the use of labor present themselves. The self-feeder may be used to reduce the labor if the latter is the most expensive item. The comparative labor cost of summer feeding on grass as compared with winter or the labor expense of open shed versus stall feeding deserve consideration. The proper location of feed and water, with reference to the cattle pens, or the proper location of buildings, may reduce the usually vast amount of lost motion.

The employment of even-tempered labor will save losses due the excitement that is sure to come if the labor employed is of the noisy, blustering kind.

ADVICE ON SELLING

In selling, as far as human genius makes possible, the animals should be got in the right shape at the right time. Aim to obtain the proper finish on the cattle simultaneously with a receptive attitude on the part of market. Failures to achieve in this respect will be common enough at best but the loss by waiting for the market to improve after the animals are finished is large enough to enjoin continued effort.

Another factor involving some stupendous economies, when its size the country over is considered, is the manure. Thousands of dollars worth of fertilty run out of the manure piles each year. The farmer does not appreciate the size of these losses. He does not know the value of manure and does not believe in its value. Therefore he does not take care of the manure. Its excellence is greatly reduced by his neglect and when he applies it to his land he does not receive a full return. So he thinks that his estimate of the value of manure is vindicated. Hence he does not appreciate the service of live stock on his farm.

Feeders often must look to the manure pile for consolation when a sudden turn in the market gives their profits a knockout blow. If it is the frequent source of profit on the feeding transaction, it should be as carefully conserved as a crop.

Still another feature of economical management arises in the production of crops. True economy will place these crops at the disposal of the feeder, who should also be the grower, at the lowest possible cost. Here beef making and crop growing present some agreeable interactions. A leading means of obtaining cheaper crop yields is by the cultivation of a fertile soil. It does not cost as much comparatively to produce a 75-bushel crop of corn as to grow 40 bushels. The additional yield per acre is largely pure gain. The manure from the cattle pens keeps the soil fertile and so aids in these economical yields.

OTHER PROFIT FACTORS

Not only does the return of the crop to the soil in the form of manure enrich it, but two other factors in beef growing aid in soil enrichment. First, the production of beef leads to the growing of legumes which have an undeniable place in live stock farming. Their full service is not given until they have been fed and their nutritive value extracted.

The second factor arises in the purchase of concentrates. This indirect method of fertilization is of great merit and is partly responsible for the rich European soils and big yields to which so many agricultural signboards in this country are pointing.

With unused opportunities for economy so numerous, it is not strange that the beef cow has been forced to leave some regions. Only those who can keep down their cost of product can hope to win out under the keen competition of to-day. But those who by such means as these here suggested are able to keep their "cost marks" low, may hope to continue successful in their beloved occupation for a long time.

Many Shorthorn men dislike the white color, but white cattle are generally good.

What About Cattle Feeding?

This year presents many a nut for the cattle feeder to crack. What will be the market prices next spring? What prices will be safe to pay for feeders this fall? It would take more than a prophet to tell this. Nobody but a fool will hazard a certainty on it. However, facts are worth noting, and then we can go ahead on our own assumptions. Here are some reports on U.S. conditions.

Over a million head of cattle and calves were marketed at ten leading markets during the month of July, breaking all previous records for the seventh month. Drouthy conditions over the Southwest, high prices for cattle and a soaring grain market were the big influences in the general rush to market.

Not only were Texas cattle unloaded in more or less frenzied fashion, owing to the seriousness of drouth conditions, but Kansas pasture cattle began moving in large numbers early in July, from four to six weeks earlier than common, and they were run more freely than ever before on a July market. Corn-belt territory also cut cattle loose, advancing corn prices being an incentive, while late in the month dry weather in the Northwest began to prompt the gathering of cattle in that region. The big increase in July cattle marketings swelled the ten-market supply for the first seven months of 1917 to 7,338,965 head, a gain of 1,595,303 head or 27.77 per cent. over like period last year.

Hoover, the U.S. Food Controller, says we are facing a meat famine and that high prices will rule for years.

Since the war started there has been a total decrease of 115,005,000 in the world's supply of meat-producing animals.

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The best herd of bull and four females, any age, at Brandon Fair this year.

Eggs and Poultry Production

Where is the High Price of Feeds Going to Lead Us? An Answer by a Practical Producer

By LEWIS N. CLARK

We submit here a few articles by leading egg and fowl producers. Mr. Clark operates one of the best paying commercial plants in Canada. His article is full of meat for every reader. Mr. Staebler has one of the most interesting plants in the Thousand Islands, while Geo. Bosanquet is the secrtary of a breeders' 'association.—EDITOR.

WHAT is the price of feed going to be? No other question seems quite so important to the poultryman this year, as this. If feed doesn't come down, and come down mighty quick, there are going to be many poultry farms, large and small, that will find it diffiicult work to keep going, but there seems no doubt but that feed will come down as soon as the new harvest is in. The crops are going to be very heavy, and in the United States prices of all cereals will undoubtedly be fixed by the Government and this is bound to have an effect in Canada.

As far as feed is concerned, all that we poultrymen can do is to pay what we have to, and hope for better times, but how about our end of the business, the matter of production, and the price that we get for our products? The first matter is by far the most important, but to get rid of an unpleasant subject, I am going to take up the other first. Can anyone tell me why eggs were bringing 44 cents a dozen wholesale in Montreal in May, when eggs were the most plentiful of any season, and then dropped to 32 cents a month later, when the production all through the country was falling off? Or why we producers received letters from various of the wholesalers about this time stating that the market was very weak, eggs coming in plentifully, and a lower market expected, when anyone with eyes to see, and a newspaper to read, could see for himself that the receipts in all the city markets were rapidly falling off week by week? Of course, it is easy to guess the answer to the questions, and the usual guess is that the wholesalers deliberately put down the price of eggs until they could get their own supplies into storage, but after all it is nothing but a guess.

I suppose the "consumer" thinks this a most selfish way to look at the matter. and that we should have been glad to see eggs come down so that he could get his eggs cheaper, but the fact is that the egg market was a great disappointment to the producer this summer. Feed was at least twice as high as it was last year, and eggs were very little higher. With the price obtainable early in the Spring, it looked as though the poultryman could afford to pay between $2 and $3 a bushel for wheat, and for other feeds in proportion, and be no worse off than other years, but when the production began to drop off, the price came down also, and for this there was no reason and no possible excuse, as I have said before, except manipulation for the advantage of "someone."

Fixing Prices.

The price is now on the upward move again, (do I hear someone saying because the wholesalers now have their eggs in storage?) and I expect to see it go sky-high, certainly unless there is some regulation as to the price asked. It might be well to mention right here that I believe every poultryman would be only too glad to have the Government step in and fix the price of eggs and poultry, **if they would also fix the price of poultry food.**

But dont let us be so busy worrying about the price of eggs and poultry as to forget that there is a very plain duty facing each one of us in the producing line. We are told that the production of eggs and poultry, along with the production of all farm stuffs, is absolutely necesary for the successful cerrying on of the war, and of this there cannot be the slightest doubt, but there are some who have taken this advice so much to heart that they feel it to be their duty to continue to produce, even more for feed than they are producing in eggs and dressed poultry, and I think that this side of the question should have some attention. Even if there are some men who can afford to follow this practice, and because of their patriotism and sense of duty are doing so, are they actually benefiting the country? A bushel of wheat, and a dozen of eggs and a pound of dressed poultry all have a certain value in dollars and cents, and this is probably somewhere near their real worth to the country and to the allied cause. Taking this for granted, then, if we use a dollar's worth of wheat, (and other feed stuffs) to produce 80 to 90 cents' worth of eggs or poultry, we are actually just as guilty of waste as the fat gentleman and his family that we see on the bill-boards, and that the government tells us is a friend of the Kaiser, and instead of helping along the cause, we are doing just as much harm as he, and others of his kind, and we might better shoulder a gun and do some real work for the cause.

Need for Efficient Work.

Never before has there been such real need for efficient work on the poultry farm as there is at present with feed at its high level. **I can say right here, and positively, that it does not pay to raise poultry for market, with the present prices of poultry and of feed.** The broiler is a necessary evil (for the little rooster must be hatched, with the pullets), and it is possible to market the broiler at a small profit, at present prices, provided it is turned out at the earliest possible time. Beyond the age of about 12 weeks, it is utterly impossible to get a sufficient gain in weight to pay for the feed consumed. I wish it were possible to get a sufficient gain in weight to pay for the feed consumed. I wish it were possible to get this knowledge into the head of the "consumer"—there has been so much said against killing immature stock, calves, lambs, etc., that the city man has an idea that this applies also to the chicken, and that young roosters should be allowed to attain their full size before killing. He does not realize that the cockerel

A returned soldier in Tuxedo Park, Winnipeg, with his flock of fowl. Many are going to make this business go.

White Chinese Geese All geese are money makers and easy to raise.

between the broiler age and full growth will eat more feed than the value of the additonal "fowl" produced, and that by this mistaken notion of his he is really contributing toward the waste that he is trying to avoid. This prejudice in the city has had a serious effect on the broiler market, and has made things even more difficult for the poultryman this year.

What About Eggs

So much for poultry. We can now turn to the more cheering prospect of eggs! For my own satisfaction, I figured out not long ago that if for the next 12 months, the wholesale price of eggs continues at the same level as for the last 12 months, (and certainly there is no reason to expect them to be lower, if feed remains the same), we could afford to pay $4.75 per bushel for wheat, $4 for corn, $1.40 for oats, $3.30 for bran, etc., and come out even, **provided we could get an average production of 14 dozen eggs per year per hen.** That is the whole thing—nothing else matters compared to the average production, and one thing is certain, not only can we not keep our poultry farms going, if we do not get a fairly good production, but if we are feeding grain to a greater value than the eggs produced, we are materially adding to the waste that should be so carefully avoided at this period of the country's history. Most of my readers who have small flocks of poultry on their own farms can answer that it is not a matter of life and death with them whether they make money out of their hens or not—they are making lots of money out of the other departments of their farms. But the other matter does apply to them equally with the man who has to buy all his feed, and it is far more their patriotic duty to see that their hens are producing enough eggs to pay for the grain that they are eating, and thus keeping out of circulation, than it is to keep the hens anyway, and produce some eggs—at an actual loss of food for the country.

I hope that I have not given my readers the impression that I think the poultry industry is in danger—if I have taken a pessimistic tone, it has been because I am so anxious to impress the great necessity at this time of increasing your average production per hen, instead of increasing your total production at all costs. There is still a tremendous profit to be made out of the production of eggs, as large as there has ever been before, and it is up to the farmers of Canada to make this profit, for the more profit they make, the more real food production is shown.

Give your hens more care than ever before, buy the best of feed for them, no matter what you have to pay for it, and you will find that you are far ahead of the game. If all the hens in Canada were producing an average of 14 to 15 dozen eggs per hen per year, eggs would be worth about a quarter what they are at present—but then they never will, so what's the use talking?

HOW I FEED CHEAPLY

By A. W. Staebler.

I have raised many varieties of poultry, but for the past four years the Blue Orpington alone has had the chance to dig into my feed bills. Aside from the perpetual interest in breeding this color, the reasons

Proud and Plump—good prices always follow a turkey flock.

are down in black and white in my books. Solid dollar profits on a strict utility basis, with feed at $4 a hundred—why? Because I have no difficulty in getting a dressed weight of four pounds on a three and one-half months old cockerel. Because the Orpington pullet hatched in May comes bouncing into November with a low neat red comb, a husky constitution, heavily feathered, and the cheerful ability to lay large brown eggs right through the dark cold months.

The steadily advancing price of feed has caused many poultry raisers to give up. Some bought low grade feeds—and their profits never peeped over the horizon. Last winter I paid the top price for the best scratch grains and fed them moderately. For a bulk feed I used steamed clover tops and leaves, small potatoes and bran, the whole cooked until the potatoes would mash. The clover I shovelled into bags from certain barn floors in spring. One can buy a short cut clover at a reasonable price from advertisements in farm and poultry papers. I mixed these ingredients in about equal proportions, and my fowls kept up a 60% laying average all winter.

The Orpington is the largest of our clean legged fowls. It is the fastest grower. The female is well equipped to lay when laying pays. Like the Ford, except for size (I would not advise a Ford owner to run into one) they are rugged and fool-proof.

TEST EACH PULLET

Of all classes of industry the farmer is, in many respects, one of the most progressive. But, strange to say a large percentage of them while expecting much from their poultry, almost ignore their existence. The truth is the hen demands and requires more attention than other stock on the farm. There are two reasons for this. First, that a paying yield of eggs is not a natural result of keeping hens. Second, that they seldom get even an equal amount of attention as that paid the other live stock, therefore, it is imperative now that they receive special attention.

The hen yields eggs, meat and manure. It is to the farmer's interest to specialize on one variety, that variety should be recognized as an ideal dual-purpose fowl. Nothing can beat a bred-to-lay strain of White Wyandottes. There are several with Official Egg Laying Contests behind them. Buy into one of them and stay with them. But this is not sufficient. You must do your own selecting. It is not good for the future health of the bird that a White Wyandotte pullet be allowed to lay before seven or eight months of age. It is a strain on the bird and the eggs probably will be undersized for the remainder of the bird's life.

Most farmers hold the trap nest as unnecessary or a thing for which they have no time. They must make time for it; anyway between Oct. 1 and Jan. 1 or for there months after their pullets lay their first eggs or some time in the early winter

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Indian Runner Ducks live in a colony house like this all winter and they pay well as egg layers.

God's Green Country: By ETHEL M. CHAPMAN

A Tale of the Ups and Downs of Country Life

CHAPTER XIII.

BILLY was coming home. Following the brief uncertain message of the telegram, an official report had stated something about a face-wound, and that a bullet had gone through one lung. When Billy's letters began to come they were indefinite and unsatisfying, making light of the injuries that were going to send him home before the summer was over, but conveying, in some way, the impression that the anticipation of his return was not unmixed in character. Especially his letters to Ruth showed the restraint of a man taking a firm grip of himself.

At last the hospital authorities sent a cablegram saying that Private Withers had sailed, and immediately preparations for a public reception began. It was the first opportunity the citizens had had to welcome a returned soldier, and the whole town let itself go to show its patriotism. The streets were hung from end to end with bunting, flags waved from the house verandas, in an evergreen arch above the steps of the town hall vari-colored electric lights spelled out the word WELCOME. A programme of considerable ceremony was arranged and the citizens swelled with proud anticipation. Only the immediate friends of the hero had misgivings. Billy had never been the central figure of a celebration before and it would be an ordeal even under normal conditions.

"In spite of the kindness of it, I'll grudge the town every minute of his time that first night," Jean confided to Ruth, and Ruth advised that she go down to the next town to meet him. To the pressing request that she come too, she argued that there would be quite enough intrusion without that.

The train was late enough to heighten the crowd's enthusiasm without exhausting their patience. The darkness had fairly settled down when the whistle some miles down the line gave the signal for lighting the bonfires and getting the straggling files of torch-bearers into line. Along the station platform policemen pushed the people back, but stopped suddenly to make way for a bent, neglected, broken old man shouldering his way through the crowd. Down in the shadows Ruth watched, white, bright-eyed and quiet; it was comforting to know that no person suspected she had any personal interest in the little drama. She had been watching the old man, she knew he was Billy's father, and she saw the mixture of pride and embarrassment in the old attempt at a military bearing in spite of the half defiant glint in the shifting eyes. She also knew the hardness that had embittered Billy's whole life, and the last request his mother had left, "You'll try to forget—to think of him as I do?" War, people said, was not softening in its influence, but she hoped—

The train steamed in, and the crowds took leave of their senses. It was amazing, the noise a town of the size could make under the pressure of patriotic emotion. Men cheered and women sent up shrill and startling attempts, while hats and handkerchiefs waved far out over the sea of faces in the darkness. Then Billy appeared at the top of the car steps and the noise went suddenly quiet. Tall and gaunt he stood in his uniform with his head back in all the old pride of bearing, but in the light from the torches his face was white and sharp and drawn with a ragged scar tearing across one cheek. The shock was too sudden for any considerate forethought of such a mass of people to check an audible gasp, and the hero didn't miss it. As if to re-assure them the smile he gave to the crowd was warm and sincere, but it disappeared abruptly, and a look of keen quick searching swept the place. It went right over Ruth's head and came back unsatisfied. Then as a guard of uniformed recruits carried him off, he saw his father slouching away in the shadows, and there was something new in the impulsive warmth with which he reached out to him. Whatever else the war had done, though it had put that hard alertness in his eyes, the gaunt drawn lines in his face, it had softened something that had been too strong for him before.

The procession of torches flamed grandly up toward the town hall, with the band fairly blasting out the chords of "See the Conquering Hero Comes," the hero himself following, most uncomfortable mentally, in an automobile whose very spokes were swathed in bunting. An hysterical crowd brought up a disorderly rear.

At the town hall confusion ceased. The mayor delivered his oration, such a speech, it was said, as had never been hammered into the ears of a sympathetic audience. Other speakers followed, various glib-tongued notables from neighboring towns, and finally when the hour was well on to midnight, and people were beginning to feel the reaction from the emotional pitch of their enthusiasm, Billy was told to stand, which he did like a soldier, and the town clerk got up with a folio, and commenced to read an address. It was then that the hero's fortitude began to leave him. He glanced furtively about as if considering the possibilities of a sure getaway if he took a chance on bolting; then he grimly faced the crowd and took it.

The clerk stopped reading, and someone shoved a leather wallet into the soldier's hand. He gaped for a minute, then he came to. He was just beginning to get the whole situation; he had come back not irreparably damaged except for the disfiguring scar, and they were making a hero of him. It was good of them and he was not ungrateful; he made that clear in a dozen ways. To-morrow it would be over, thank heaven. He could go back to civil life and begin to take up the broken threads again, but what of the others coming back for whom all the interests of a normal life were ended? A night's demonstration would mean little to them. Would these generous people in their patriotic zeal take account of that, or would they forget? This returning would soon become commonplace; men would return in bunches instead of as individuals. What then?

Unconsciously he found himself telling them this. He spoke modestly, bravely, like a gentleman and a soldier. There was the usual restraint of the returned man, but as he talked haunting torturing pictures began to come back, and he told a few things that would not easily be forgotten. The gold in the wallet he begged to be allowed to turn into the nucleus of a fund for a convalescent home in the county where men could at least live out their broken lives among their friends. "It would help to keep us from forgetting them—we who have been more fortunate," he said. "It would be a life-time privilege for us to support such a place."

He seemed to have forgotten that he had had any part in the great world drama, and the people forgot to think of him as the invalid soldier who was to receive their patronage. He was a man to be listened to; a possible leader in future movements which the community should take up, but at all events a probable disturber in the neighborhood to keep this responsibility weighing heavily on the community conscience until it was discharged. So far as his individual case was concerned it was plain that he felt quite equal to taking care of himself, and the independence was most admirable. But a girl watching and listening in the darkness felt a new thrilling pride and awe of him chilled by a horrible little clutch of loneliness. She had expected to find him weak and broken, but this new assurance, the hard, direct way of attacking a difficult problem left no need of her sympathy or help. Only when a little wisp of a girl climbed the platform steps and reached up to him an armful of roses, did a grinning, blushing awkwardness reveal the boy untouched by the war. This and the general confusion of the crowd dispersing gave Ruth courage to go to him. Suddenly finding her he forgot; it seemed a perfectly natural thing, even in the presence of a few hundred people to let the whole frank longing for her look from his eyes, to take her hands in a grip which gave unnecessary assurance that he was glad to see her. Then remembering, he dropped her hands; a dull wave of color went over his face and disappeared, leaving it white and haggard with its hollow eyes and ragged white scar. He realized that he was still pretty weak.

"I'm going away for a while," he said when he left her. "It rather goes to a man's head, the getting home and—everything. As soon as I'm sober I'll come back.

* * * * *

It was in the ripening glow of an October afternoon when he came back, He had phoned from somewhere in the country the night before, to say that he had bought a team of chestnut hunters and had spent weeks training them to the

saddle. They were beauties, especially the one which he had taken particular pains to gentle. Would she come riding?

The horses were quite all he had said of them, aristocratic, agile, white-footed beasts, their shining coats an evidence of the care of a born horseman, and whether or not this hobby was helping him to get back to normal life, Billy seemed to have lost some of the painful traces of the war atmosphere. No wonder. To ride out in the heavenly quiet of a country where fields lay level and tilled, not torn up in caves and littered with piles of earth and stones and broken trees; where children could play unharmed about their own doorsteps, not where every vestige of safety and honor had been outraged—to the sensitive nerves of the convalescent it was like a haven to a storm-tortured craft. Only the soldier knew that as long as he lived he would sometimes be startled by returning visions of other scenes and other places. Then there was the girl; she seemed the most unreal of all. Strangely shy and quiet, with the sun kindling warm lights in her brown hair, and her dress the color of the beech leaves, she might have been, a nymph of the woods, ready to vanish as hopelessly as the vision of his dug-out dreams.

The road began to show familiar landmarks. It wound with many sudden curves up a stony mountain, and past a trim white farmhouse with a stream Where Billy had set a water wheel and she had helped him to show how it worked. At the crest of the hill they stopped, turned in embarrassed silence from the ruins of an old house under a sentinel elm, and looked down over the fields and woods sloping away to the lake. The whole countryside burned in a riot of color, softened by a faint smoky haze. Golden stubble fields and yellow straw stacks banked against farm buildings told of the harvest gathered in. Heavily laden trees in apple orchards stood out a vivid red and green blur in the sun. Knee deep in the millet cattle grazed in lazy content, their dark red shapes clearly outlined against the bluish background of the grass. Dusty in the fence corners patches of goldenrod and purple asters, added their color to the picture, and farther away on the hillside, the velvet clusters of the sumach flamed crimson. Between the blue of the sky and the blue of the lake a flock of swallows sailed quietly southward, their brown wings and white breasts making one of the thousand wonderful, moving-pictures that only the country dweller knows.

Bored by the quiet, the horses edged closer to stroke their heads together, a movement which brought Billy very close to the girl's shoulder.

"It doesn't seem real," he said unsteadily. "The world never looked like this before. Maybe it's because I've been cooped up in a hospital so long, but I believe it really took the cruelty and ugliness and general distortion of things over there to make me appreciate what is beautiful and natural. I always thought I was a farmer. I know now that to produce something which the world needs and to feel the joy of doing it, to live where everything is natural and right as the Architect of the scheme of things first planned it, to have something to do without one interest for the exploiting of humanity, is the only satisfying thing. You may find these in other jobs; I only know that you get them in farming. Thousands of men who come through the war will feel the same, even those who have never farmed in their lives. And it isn't only that the outdoor life in the army has handicapped them for other kinds of work. For months they have been up against the elemental things, and for the time at least they are filled with a kind of superstition or religion, call it what you will—and the outdoors gets them. Maybe it's Nature working back to keep a balance, because a lot more men will have to go out to the land if the country is ever to come back to normal again.

"Some of these men won't be the greatest possible asset to the country; men of all sorts go into the making of an army; but a lot of them will be of the finest type, educated, practical, public-spirited, the kind we need for building a community. Only men alone can't build a community; it requires the indispensable woman, and there's the problem. The men themselves have learned, under the severest discipline to endure and cope with hard conditions. They have slept in muddy trenches, they have suffered and survived the most unthinkable physical hardships; the rigors of agriculture have no terrors for them. But their wives, or the girls who would be their wives, have been living in the most refined homes—maybe during the war they have gone without luxuries which they considered necessities in other times, perhaps they have done work they would have thought impossible before; still they have lived in an atmosphere of considerable elegance. It's rather a good thing that they have. If these women would come out to make homes on the land, bringing with them all their essentials of refinement, but dropping the superficialties, what a blessing it would be.

"I can imagine the horror some of them would feel at the prospect of pioneering in the country, but I know that things out here can be made as safe and comfortable and I hope far more worth while than they could be in any city, if people just have the right material in themselves. We would have less money, but less would be required for the same kind of a life. Think what it could be! This place is mine now, the old house and the tree and all. We could have a bungalow to delight the heart of any architect, and we have ground enough to make a natural park around it. We could have a blazing fireplace as big as a cave with logs from our own woods, and we could make it a centre for other less happy people who needed the warmth of a real home sometimes. We would have our own horses to galavant all over the country, but best of all we would always have the cabin to come home to, and time to be alone, to think and talk and learn to know each other. People can't do that where they live in crowds."

Then a quick, troubled look shot over his face. "I had forgotten," he apologized awkwardly. "I'm afraid I should have stayed away a while longer. I get carried away with the idea of having you here, until anything else seems impossible, and I blunder into a visioning like this. I'm not such a donkey as not to know that the place would be the most trifling consideration for you, but I had hoped for so long that by loving you hard enough I might make you care enough to marry me. When they gathered me in from the field, considerably damaged, I tried to forget it, but I suppose on account of a natural human selfishness it wasn't any use. You've been no end kind always, and I don't want to make myself a nuisance just because of that. Tell me, honest, does it bother you, this scar? It might easily enough, you know. Strangers often gasp and turn away when I meet them suddenly. Personally, I take it as one of the fortunes of war; considering the way others have been done up I came through easily, but I understand that—well, that it has to be reckoned with."

It would have been necessary only to turn her head a very little to kiss the horrible, ragged scar. It would also have been the easiest thing in the world to do, only she just couldn't. For some reason she found that she was possessed of a most awesome shyness where Billy was concerned. In some broken, half-whispered intimation that set his heart machinery pounding wildly, she managed to convey the idea that the scar did not bother her.

"I couldn't have you marry me because you pitied me," he pursued. "That's why I kept away hoping to pull myself together alone, but it wouldn't work. I was even so weak sometimes that I hoped you would come to me, but you didn't. Was it because you didn't care?"

"It was because you came back with something that put you away beyond me. You were so much more a man, that I was —afraid of you."

At last the full wonder of it dawned upon him. He knew what she meant because he was afraid of her himself. He had knelt so fearfully before her truth, her kindness, the pure jewel of her womanhood, it seemed incredible that she could have found in him anything to tremble at. It could only be left as one of the old mysteries in the perfect arrangement of things.

* * *

The plans for the house on the hill began that night. It was easy to picture the finished building with the rough blue stone foundation and chimney, the low earth-hugging roof-lines and the little sun-room tower shooting up at a corner where it could catch the first and last rays from the east and the west. Then half-embarrassed they began to map out where this room would be, and that. It was very late before they had the first sketch ready for the builder to begin on the foundation in the morning. Other details had to be worked out as the building progressed, because in the country a home is a vital and permanent thing, linked up with the most wonderful of human experiences and sheltering the life of a family for a generation or two. You have to build anticipating the needs of other years.

On a sunny November day they caused the workmen considerable annoyance by getting under their scaffolds to rake away the litter of stones and mortar and plant a tulip border, to build a protective crate over a lilac-bush and to make plans for a landscape garden in the spring. However, they were wooden individuals, these men, accustomed to building rows of stereotyped houses for people who had never known what it meant to express their finest ideals in creating a home.

By the time the last workman had gathered up his tools the rooms had been made ready for living in. Then just as

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A Bungalow for the Prairie Farm

By ETHEL M. CHAPMAN

THE bungalow is the ideal farm house for the prairie. Being low and snug and broad, it isn't worried by the weather; it is easily heated; and until your evergreen windbreak or ornamental shrubs make a relief in the landscape it does not stand out so bleak against the sky as the high, narrow house; the picturesque style of architecture that may be put into a bungalow requires no setting of trees and hills, especially where a good scheme of outside decoration is followed. A bungalow like we have here, painted a moss-green with white trimmings and earth-brown roof would look almost as though Nature herself had planted it.

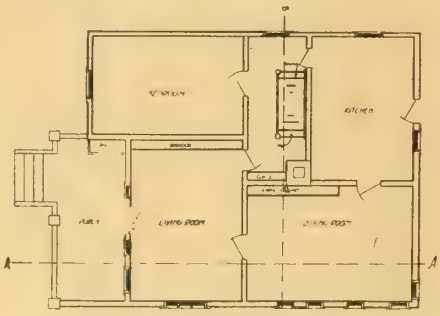
It looks as though nature herself had planted it—moss green with white trimmings and earth-brown roof.

As the ground floor of a bungalow must accommodate the living and working rooms of the house, economy of space is one of the first considerations. Built-in furniture helps wonderfully in this besides being less expensive than the "boughten" pieces. A deep, roomy built-in cupboard and a dumb waiter in the kitchen with a long table between make it quite possible to get along without a pantry. A home-made work table has the advantage of being made to suit the height of the worker, a feature which is too often overlooked in buying furniture and placing cupboards and sinks. It might be thought more convenient to have the sink nearer the stove—in a town house this would be true; but the sink in the farm kitchen is generally doing duty as a wash-stand just before meal-time, and everyone concerned has more room if it is set at some distance from the stove and work table. There should be no cupboard under the sink. A dark sink closet is the most inviting hang-out you can possibly provide for germs, especially if the pipes begin to leak.

The stairs to the second floor and to the basement open from a hall. This is almost necessary where there is only one staircase in a house and where the bathroom is in the basement.

For beauty and comfort at moderate cost the bungalow is the ideal farm house, especially where no extra room is required for hired help. The problem of housing men during the rush season is solved here by having a separate cottage, tent or collapsible house, which serves its purpose very well from seeding to harvest season, and costs less than the house necessary for the year-round, married man. While this house is planned for a prairie farm it offers suggestions for making the most of space and having modern conveniences even in a very small farm home. Plans and specifications of this building can now be furnished for any one at a cost of $5.—EDITOR.

A dining room should be well lighted so as to catch the first and last glints of sunlight every day. It is surprising how it helps us to begin the day with optimism



The ground floor plan.

and end it with contentment, to say nothing of the part it plays in digestion. It is generally impossible, of course, to have both an east and a west window, but we can at least have the room lighted from two sides, and if the corner between can be made to point south the result will be excellent. A width of twelve feet gives ample room for the table and chairs and a built-in china cabinet running along the side of the room. The lower part of this may have drawers for linen and two or more compartments closed by doors without glass for keeping plain dishes, etc. Where the top of the cabinet is made to come just even with the tops of the windows, and the walls up to that height paneled or covered with burlap, with a plate rail running along the top, of the same wood as the cabinet and paneling, the effect is charming.

In the living-room we have more built-in furniture — a bookcase right across one end of the room, and a desk or secretary. The desk, of course, would not cost a great deal to buy as a separate piece of furniture, but it costs less to build it at home, and the position with the bookcase at the right and the window at the left could scarcely be improved.

Not the least interesting part of this house is the cellar. A cellar well-lighted and cement-lined may be divided into compartments and serve other purposes than storing coal and vegetables. We have to have separate rooms for the furnace and coal, and the food.

It makes little difference whether the water for the bath room is heated by the furnace or the kitchen stove, as the problem of pressure is simplified where the bath room is in the basement. This is not by any means the ideal location, but often we could have a bath room in the cellar when we could not have it anywhere else in the house. This room has two windows and being cemented will be light and dry. The walls should, of course, have a finish of some kind that can be washed. If plastered and given a few coats of light paint or papered with wash paper, they will be easily kept clean. A straw matting that can be scrubbed is better than linoleum for a cement floor.

While a house built after this plan is neither large nor luxurious it should be both comfortable and convenient. Having a separate cottage for the hired men

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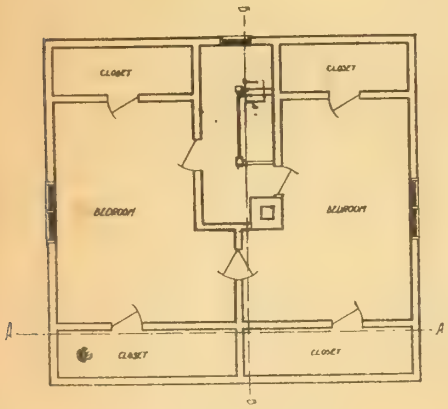
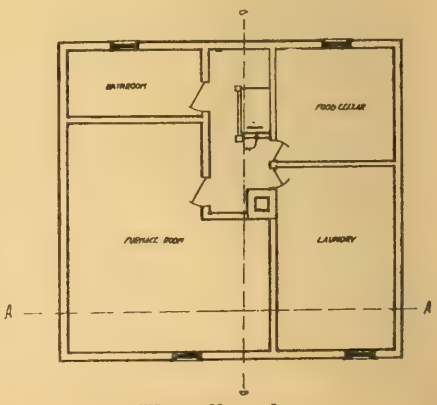


The upstairs layout.



The cellar plan.

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AN AGRICULTURAL CRIME.

Continued from page 5.

Senator Richardson before the Senate Committee urged that the Government do something at once, as it was almost criminal, he said, for good Canadian wheat land to lie idle, when we considered the needs of great Britain and the Allies, together with our shortened tonnage for shipping.

He said:

The war had increased the demand for grain from Canada and the United States and that increased demand would continue for the period of the war and for many years after the close of the war. Owing to shortage of shipping tonnage and their distance from Europe, neither South America nor Australia could now be drawn upon for a supply of grain for Europe. North America had to meet this demand. Therefore, it was necessary to bring all the land possible under cultivation and to plant and take the crops off an area much larger than was being cultivated now. The Government would ascertain the best means of increasing, by the use of mechanical appliances, the power of the men who were cultivating the lands. He believed that with proper study and Government encouragement the production of wheat from the Canadian Northwest could be doubled in three or four years.

Ontario has been doing a little towards getting more land under the plow, by placing a few tractors at those points in the province where there has come a call for them. With 65 at present set up, and salving the situation with the likelihood that there will be a hundred or more at work inside of a few weeks, a few thousand acres of fall plowing may be done that otherwise would not be. The unusual conditions that have confronted us this year whereby the haying and the harvest, both delayed, have been carried over into September, the usual amount of fall plowing is not going to be done. The acreage of fall wheat, will also likely be no more than normal, while a poorly plowed field or an unplowed stubble, is likely to lessen the next year's yield considerably. This is the situation all over the East. In the West, while there has been a fair amount of summer fallowing done, there has not been any concerted action to bring new areas under the breaking plow.

It is useless to say that more could not be done. *Leaders do things.* If we had a wide-awake leader of the Agricultural Department at Ottawa the whole plan of crop production could have been drafted long ago and all the forces mobilized to that end, in a way that would have amazed the Empire. He could have carried the tractor into every part of the country. He could have had tractor plants producing the engines just as the munition plants are turning out a surplus of shells. Engineering schools for teaching their operation would have been provided at every experiment station and agricultural college. Tractioners would have thus been ready for the fields in plenty and the main difficulties of the operating of the machines overcome.

Greater use could be made of the few tractors we have in the country. Many are lying idle half the time. Others are resting in fence corners for the lack of competent operators. Let the Government establish training schools, get the men out riding these iron horses to food victories and assist the farmers in their call for help. Hundreds of farmers want to buy light tractors. They find the price too high. Why not pay the duty for them? Thousands of acres have called for the power plows and the answer is not forthcoming. Why is it? What are our exhorters waiting for? Why don't they do it?

Some advocate a bounty on the production of next year's crop. Such a thing might be feasible if the bounty were high enough to cover the labor costs of the transaction. Others say the only way to get the maximum of returns is to guarantee a minimum price for the wheat and it will be forthcoming. With this feature, we confess that we are much in sympathy. Assure the farmers that they will get, say, $2 a bushel for the next crop and self-interest will see to it, as in the case of the shell makers and the packing concerns, that the spout is kept flowing to Europe.

Munition workers are being let out by the thousands in Canada. These could be induced by a good wage paid by the Government to go into traction plowing now. It would not be impossible to put in a million acres of fall wheat in Ontario and another million in Saskatchewan and Alberta. Quebec and the Maritimes could increase their acreage. Following this, the acreage of fall rye, a splendid and sure crop could be largely increased in October. While the preparation by fall plowing of all farm lands in Ontario as never before, would ensure as nothing else, a bumper yield in 1918.

Moreover, our Eastern soils need phosphates. These could be rushed into all the District Representative centres and distributed to farmers sowing wheat this fall. The charges could thus be reduced considerably and a better crop assured.

With the Federal Department of Agriculture alive to this work, it could infuse into the provincial organizations the needed help and inspiration. The harmonious team work of these big organized units, would assure a doubling of Canada's wheat production in every province in a short time. To sleep on is criminal.

THE TUBER'S REPARTEE. —From Punch.

German Pirate.—"Gott Strafe England!"
British Potato.—"Tuber Uber Alles!"

Fall Planning in New Ontario

First-Hand Ideas Gleaned From a Life in the New Clay Belt Country

By EDWARD W. REYNOLDS

TO the outside world Northern, or Greater Ontario as it is now called by the pioneers and settlers, is a land of mining developments, the happy hunting grounds for "wild cats," which would rob an unsuspecting public of its hard-earned cash by investment in mining claims that yield nothing but disappointments and poverty to those who would join the Get-Rich-Quick Wallingfords. True the mines of the north have produced large fortunes. They have meant much for the prosperity of the clay belt in finding a ready market for the settlers. These entered that vast hinterland and partook of all that a kind Providence has had in store for them throughout the ages, *but to-day agriculture really comes first.*

Mine managers, American men of wealth, and stock manipulators of international repute have a habit of travelling *de luxe* through that land, just seeing it from the easy comfort of a pullman car chair. To these men the development of that wonderful land is a mere incident in the great gamble of gouging ores from the bowels of the earth. Should the mines peter out, these mining men will depart for other fields of endeavor and exploitation, but the patient, painstaking, energetic and enthusiastic agriculturists have come quietly and unostentatiously. They have seen, and will stay. Long after the mines have become a memory, the rich agricultural communities will be reaping the wealth from a reproductive soil.

As a result of the great influx of people into the clay belt, and the steady increase in the number of "lots" taken up by the settlers, the agricultural development of that land has taken on a new meaning. By virtue of its own remarkable fertility, and potentiality, and possibilities, it is leaving its own impress upon the minds of the people in the older portions of the Province, and is making, and will continue to make, insistent demands upon the authorities to pay more and more attention to its needs. Already these needs are happily being ministered to by a band of faithful agricultural students and university graduates. These men are busy making the lot of the newcomer easier, and hastening him on to the road to self-support and independence, through kindly advice, and practical sympathy and support when under adverse circumstances.

SEED VARIETIES FOR THE CLAY BELT

Wheat, winter: Dawson's Golden Chaff. Yield, 30 bushels to the acre.

Wheat, spring: Marquis or Prelude. Yield, 35 bushels to the acre.

Oats: O. A. C., No. 3, (not threshed). Yield, 50 bushels to the acre.

Barley: O. A. C., No. 21. Yield, 40 to 60 bushels to the acre.

Peas: Sippinau, Prince Arthur, Albert, Early June. Yield, 35 bushels to the acre.

Turnips: (all kinds). Yield, 500 to 700 bushels to the acre.

Potatoes: Eureka, Empire State, Beauty of Hebron, and Early Rose. Yield as high as 450, but the normal yield is 250 to 350 bushels to the acre.

Mangels: (all kinds). Yield, 475 to 600 bushels to the acre.

Red Clover, Alsike and Timothy. Yield, average for red clover, five bushels to the acre.

A contented family, owned by F. W. Skinner, of Engelhart.

RICH HARVESTS ARE BEING REAPED

What is the net result of all this sincere effort, of the many trials and tribulations endured by the settlers? It is this, the country is yielding its rich harvests of clover, grain, roots, and vegetables. It is now a real and vital entity in the great work of patriotic production. It is producing great profits and independence for its farmers. The vast tracts of land, which but a few years ago were virgin forests, are to-day scenes of peace and prosperity. Beautiful, orderly, well-managed farms dot the landscape right to the horizon, and stretch in developed belts 30 and 40 miles wide. Modern barns, and farm buildings, up-to-date farm houses, healthy cattle and sheep, are to be seen on all sides. Farms are valuable, fetching bigger prices than can be obtained for farms in many of the older sections of the Province—one was recently sold for $16,000 near New Liskeard—and the time has come for the farmers to eliminate the lure of the woods during the winter months, and pay year-round attention to the needs of their farms.

This is the psychological moment for a new form of fall planning. The thought that must be uppermost in the mind of the farmer in Greater Ontario is this: "Can I change the old order of things, and work my farm so that I can feed back to the land in order that its wonderful productivity can be perpetuated?" If this thought does not strike the farmer, then he will soon see his farm on the down grade to virtual barrenness. One

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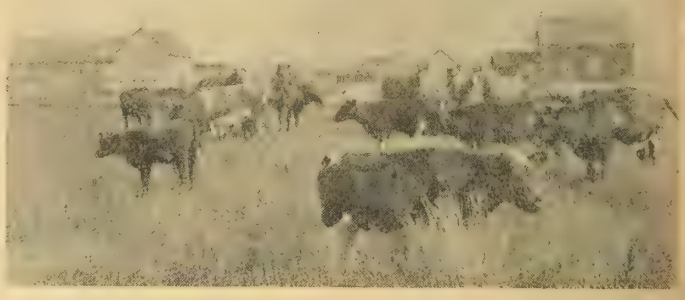
A bumper crop of oats on the farm of Wm. Schell, of Dack Township.



One would not wish for a finer mixed farming prospect than these.

The Woman's Vote: By MINNIE C. DAWSON

A Presentation of the Franchise for Women Question by a Member of the Women's Institute

We present here an article on the women's vote question that will merit careful reading by all women in farm homes. Assuredly the women of Canada are doing things. Any help that can be given to them personally through these columns will be cheerfully rendered by the staff. Genevieve, the pen name for one of the best writers and speakers of Canada's women's organizations will personally handle all questions addressed to her. —EDITOR.

THE vote has been bestowed upon her. She has neither rejoiced nor murmured. She has accepted without surprise, listlessly, indifferently. For, her hands are busy knitting, her eyes are fixed on distant battlefields, her heart is in Flanders. Four years ago, the acquisition of the vote would have been a very important event. Placed over against the fact, that out there millions of lads are suffering and dying, it is of minor importance.

Still, woman will use the vote. The prosperous, selfish, pampered woman, in both city and country, will be least inclined to use it. With a fine scorn for others of her sex, she will say that she does not want to vote, that she is quite satisfied to leave that to the men. The fact that other women, less fortunate, have had bitter cause for desiring a vote, weighs not with her. She is not her sister's keeper. Her lines have fallen in safe, pleasant places. She will use the vote only because her men folk wish her to do so.

This class of women, moral cowards, throw the first stones at the martyrs of any new woman movement. They cry to the men of their day, "Behold, we are not as these dreadful, sexless creatures are. We are the good wives, the virtuous women of whom Solomon loved to sing." When the first woman discarded her shawl and put on a tight-fitting coat, which revealed the outlines of her figure to the gaze of man, and incidentally gave her the free use of her hands, these women meekly folded their hands under their modest shawls and said: "Is she not dreadful? What would become of this world if we were all such horrid, shameless creatures?" And then, when the time was ripe, they hied them forth and bought cloth and made them a tight-fitting coat—but that was after the pioneer coat-wearer had been crucified by public opinion and the coat had won even its critics to pronounce it sensible and good. If it can be made to appear that this class of women are yielding to persuasion, they will vote.

WHY SHE WILL VOTE.

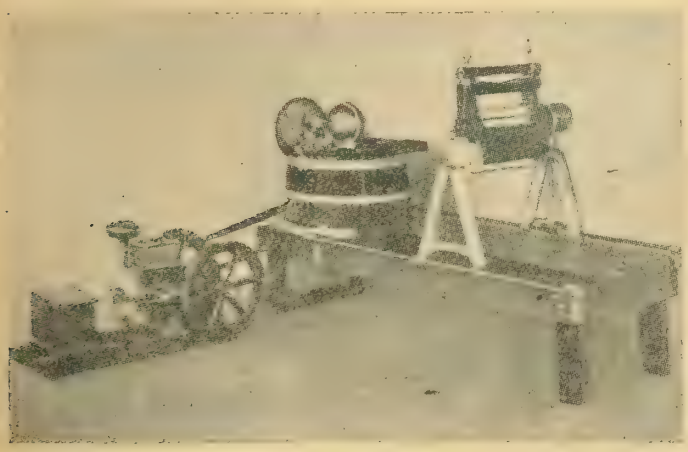
The intelligent woman will vote, and and she will consider it a privilege. She will rejoice because of the added power for good which voting gives. The working girl will vote. She competes with man in her daily task, she feels that she has ability and faithful perseverance, she feels that her less sheltered state has left her open to many wrongs, she feels that her viewpoint has been totally unrepresented when men have made the laws under which she has to work. Her great opportunity to be heard has come. She will vote.

Women who have striven for reforms will vote. Formerly they educated public opinion by ceaseles teaching in the home and abroad, and when that public opinion became strong enough, men took up the work and carried it to successful conclusion, because, having the vote, they had the power. These women will now vote. The pioneer woman in the little log-cabin on the clay belt,, from Temiscaming to Kenora, will vote. The blackened, fire-swept forest has left an impress on her soul, has in many cases robbed her of hope and made her a fatalist. The June rains of the last three years, the undrained clearing of blue clay into whose sticky depths her hope for a crop of potatoes has been consigned, the cessation of road-making by which her man earned money prior to the war, the lack of ordinary comforts, the lack of the church of her youth, the church which is not sharing her hardships and which she will spurn when it comes in spotless linen and broadcloth, when the land becomes prosperous, it seems that all these things have a cause and that there must be a remedy. She is a brave woman, but her back is against the wall, and she will strike hard with her ballot at the first tangible reason which presents itself. She will vote.

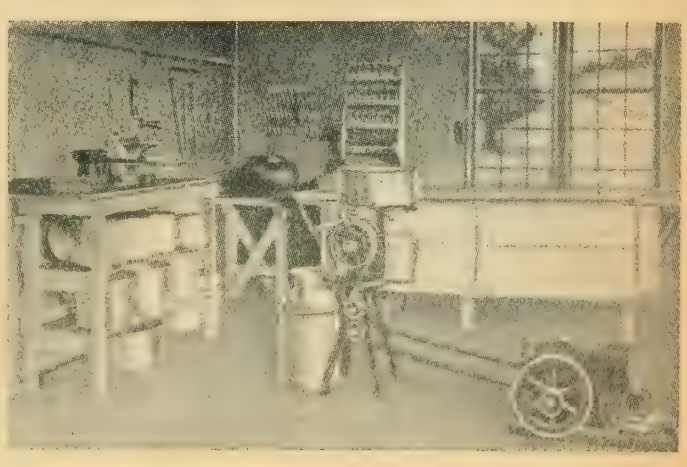
The poor bewildered foreign woman, who knows not the meaning of British truth, British fair play, British justice, will vote, at the bidding of her lord and master.

WHY SOME WILL NOT VOTE.

Some women will be deterred from voting because of the men who hold up their hands and exclaim in horror-stricken tones that if a woman goes to the polls she will be contaminated. She associates with men in the home, in the street, in business places, in church, in the crowded street car, in the unventilated concert hall, and at the dance, and in all these places, it would seem, she goes and comes and so much as the hem of her garment is not defiled. But, let her pass between the two men who act as scrutineers outside the polling place, let her receive that small piece of paper from the returning officer, let her slip behind the curtain and mark an x opposite to one of the candidates' names, and lo! that mysterious evil which lurks in polling booths and no other place, seizes upon her and she goes forth contaminated. Dreadful! Is it not? It gives one a creepy feeling just to think of it, not to speak of the naive admission these men make of the fact that they have done things which shun the light, in connection with the ballot. But, if the evil which men do, has been carefully



A little gas engine, clean and easy to handle, does the milk drudgery.



Move it to the wash room on wash day and see how it will save the back.

hidden from woman in the home, the street and elsewhere, then will it not also be hidden from her at the polling booth, and will not her presence there help to make the polling booth as pure as the home?

WILL IT DUPLICATE MAN'S VOTE.

Will the woman vote be just a duplicate of the man vote? Will the only difference at elections be an increased vote? Most happily married women will vote with their husbands. Why not? If a couple see eye to eye on other things, why not on this? And when Sandy McGregor sees John Smith, Mrs. Smith and the Smith girls all going down to the corner to vote Tory, it will not take Sandy long to hitch the colts into the democrat and take Mrs. McGregor and the McGregor girls down to vote Grit. But the thousands of unmarried women, the thousands of widows, the thousands of women who will vote for a certain reason of their own, may make a great difference in the results.

THE FEELING OF UNIVERAL MOTHERHOOD.

Will enough of these women, with such diversified interests, stick together to make what will be definitely and clearly known as the woman vote, or will they just be swallowed up in the existing political parties? There is one interest which all these women have in common, and, it is an interest strong enough to bind women together and to galvanize into life the vote indifferent. That interest is the child, the child of the home, of the race, of the nation. The child is woman's work, God given, and it is a work which she cannot pass over to man. In the home, in the school, in the community, in the country, the child is her work. All animals love their young, but woman has a bigger love than that for she not only cares for her own children, but she cares for the children of others. And never has this feeling of universal motherhood been as strongly developed as it is to-day, when women have learned by three years of war **that the greatest service they can render to their stricken country is that of mothering.** If a clarion call is made to the women in the name of the child, we shall have a woman vote and legislation dealing with life and living will appear on our statute books intermingled with that relating to the tariff, transportation and live stock.

Two issues dealing with the child of the race are already in the arena. Conscription and prohibition. Beyond these two issues, men have not yet caught a vision of future elections when woman will not only vote on man-made issues, but will introduce fresh issues of her own.

TWO ISSUES NOW INTEREST HER

The woman vote would be in favor of prohibition. Liquor injures the child and woman labored for two generations, teaching temperance in the home, in the church, through the press. She is not going to undo what has been done. The fact that the liquor men opposed giving her the vote is proof of that.

The woman vote would be against conscription. The women who have sons, husbands, swethearts or brothers fighting for freedom, the women who have risen above self and let their loved ones go, these women, except where they are afraid of the foreign element, would vote for conscription so that their own loved ones might have a better chance to return. And they would vote with a little fierceness caused by what they and theirs have suffered that others might go free. And with a little bitterness caused by the sight of white-clad young men dancing and attending shows and joy-riding, while their own dear lads are khaki-clad and worn with the heat and anxiety of the day. But the women whose men folk are still in Canada, would vote against conscription, and these would outnumber the others. The woman vote would be against conscription just as the woman vote in years to come, will be against war, because it destroys her work—the child. The woman of the future will rock the cradle, but after she has rocked it, after she has felt the little, strangling arms around her neck, after she has dreamed happy dreams of what she will do in the future through that child, she is going to use her vote to destroy the evils which would rob her of that child.

PREVENTION IS WOMAN'S WORK SURELY.

Women in the past have been starting from the wrong end. A certain Ontario town dumped all its sewage into the river from which its drinking water was procured. Dozens of people in that town had typhoid fever each year. The Board of Health wished the women's organizations to co-operate in an attempt to force the Town Council to dump the sewage some other place. The women refused for the time-honored reason that it was not a woman's work. But it was a woman's work to nurse the people when they became ill with typhoid fever. Would it not have been much more sensible to go to that Town Council and endeavor to prevent these people from becoming sick, than to nurse them back to health after the sewage had done its work?

Prevention is better than cure. Yet woman has endeavored to lift up fallen girls, to reform the drunkard ,to reform the criminal of all kinds. and with the vote in her hands, she can begin at the other end. She can say to her country: "If you spend more on the child, if you give the child the chance for a good, useful life which every child should have, you will have to spend less at the other end for the maintenance of jails, poorhouses and lunatic asylums."

She will ask that the child gets a chance to be healthy. Bad morals are too often the result of some physical defect which can be remedied. When the state called our men to the colors, thousands could not serve because they were defective. It is of vital importance to the state that some sort of medical inspection of the children be instituted. Woman will ask for that because the average mother lacks the knowledge which would enable her to locate such defects.

And no woman can calmly contemplate the fact that, while the cannon cuts down thousands of our sons, thousands of our girls go down to destruction of body and soul each year. She cannot go on rocking the cradle for that. She cannot believe that "Such women are necessary, she cannot heartlessly consign these girls to such a life just as if they were not made of the same flesh and blood as other women. She cannot wink an eye at this whole, horrible traffic in the bodies and souls of those whom she has rocked and mothered and now she can begin, not by lifting the fallen girl to a second chance, but by striking at the root of the evil by legislation, by creating public opinion against it, by having just punishment meted out to the men who are guilty.

MANITOBA'S LEAD.

The value of the mother to the State has already been recognized in Manitoba, where Mothers' Pensions have been introduced. Other provinces will follow. This is beginning at the right end, spending money on the child so that a useful citizen may result. Railways have been given assistance, and yet, none of these things are more important in time of war or in peace than the product of the home—the child. If the State can demand the widow's son to defend it, than the State is not making a mistake when it makes it possible for that widow to be a mother. The human mother too often has the least time of all mothers to devote to the task of just mothering her brood. It is well understood that to raise thoroughbred stock, one has to take good care of the mother. The State is going to demand the same care for the mothers of the State's greatest asset. The woman vote will deal with life. What are party politics to her if they injure her jewels, her girls and her boys?

God's Green Country

Continued from page 15.

the dark was closing in one night they came home from the church and kindled the first fire on the stone hearth. The flames shed their weird unsteady glow about the room and the moonlight pouring through the windows made square patches of light on the floor. It had been one of Billy's dreams for the new house that a light in the window should send out a welcome to any benighted wayfarer, but to-night the world was shut out. After all the mistakes and purgatories of the past, he held jealously this first hour of heaven. It was enough to have his wife drop down on a stool at his feet with a tremulous little sigh of content at her homecoming, to watch the dancing light playing over her dress, and her eyes starry and thoughtful in the half dark, to stare together into the flames, and see visions. They were not unmindful of their responsibility in things outside, of wars and famines and big perplexing issues. They had had some part in the war, they were already lined up with the industry that works to relieve famines, and because they had taken these demands seriously they could never turn blind to the suffering of the world just because they were happy themselves. Only there are times when individuals realize that the world would go on in spite of wars and famines and big perplexing issues, but it would come to a complete deadlock without the man and the woman.

The fire burned low. Outside an owl hooted, a far-off, lonely cry. Down in the city cars rushed, people flocked chattering from theatres to glittering cafes—always there was the crowd; men and women didn't need each other there so much. The owl hooted again, coming nearer over the snow. This must have been as God meant it to be, for it sent them shivering to each other.

THE END.

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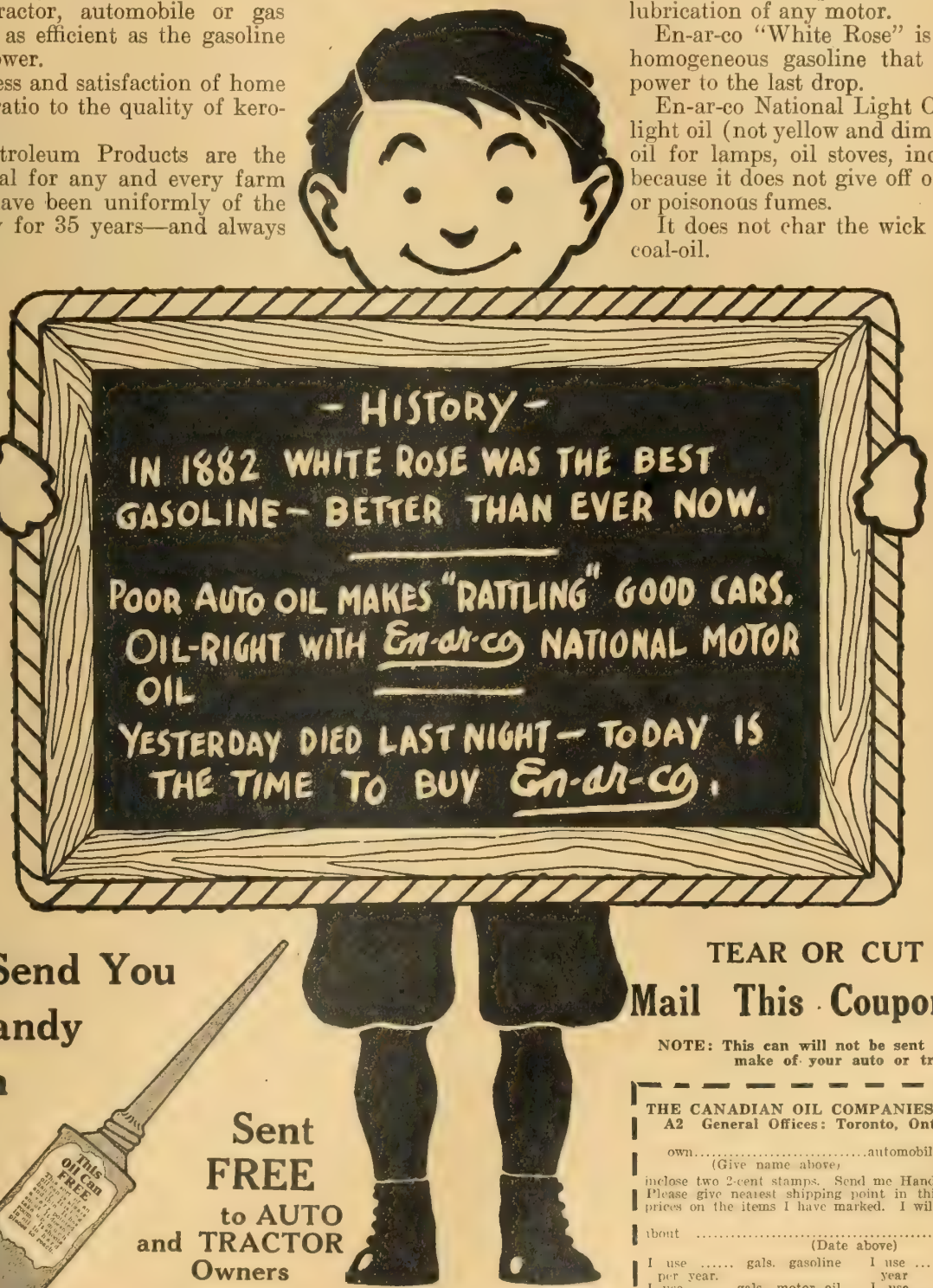

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FROM THE KITCHEN WINDOW

A Woman's Outlook

By GENEVIEVE

IT rather makes an ordinary home-keeping woman smooth out her apron with an inward feeling of complacency, to find in these crucial times, the powers that be recognizing the mightiness of her homely craft to save the nation. It seems we have come to the time when the crop reports carry a national interest almost as keen as the latest war bulletins; when the making of bread, if it be the right kind of bread for war time, is almost on a par with the making of munitions. But to the woman this public recognition of the importance of her work means something more than a passing gratification. It involves a new responsibility and she feels that the times have brought her enough responsibilities already.

She is told that the saving of the country's food supply rests largely with her, and she feels that she has always saved. If she lives on a farm she knows that she has practised thrift in ways unknown to many women who have conscientiously changed the order of their households since the war began. But this food-saving problem is something apart from the general idea of thrift. It means sacrifice and a change in the average family's mode of living, but it does not mean that the people of Canada shall tighten their belts, or that their children shall grow up ill-nurtured. It means that patriotic and unselfish women will intelligently plan to feed their families, so far as possible, on the kinds of food not required for the army. Three things our soldiers and our allies in Europe need in quantities larger than we can supply—wheat, beef and bacon. It is our responsibility to eat something else and release these foods for export.

A vigorous Women's Institute branch at Blackstock, Ont.

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TO CARRY OUT CONSCIENTIOUSLY
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Right here begins our food conservation work. If we are to do without these foods which have so long been staples in our diet, we are going to have to draw largely on our supply of perishable foods. Many of these perishable foods have a short season, and it means no small amount of work for the woman on the farm, with help so difficult to get, to see that none of the crop is wasted. The canning and drying and pickling of surplus fruit and vegetables take a lot of time and work, yet this year, when so many women and girls are doing farm work that they never did in their lives before, the quantity of food put away for winter use is beyond anything we had ever dreamed of in normal times. It shows that we are at least trying to rise to the occasion. Perhaps it is even easier for us than for some other women, because it is not so long since our pioneer ancestors settling in a new country had to be resourceful or perish. Some of us have even gone out in family parties with little tin pails tied around our waists, to clamber over the logs in the wild berry patch all morning, and we have seen our

grandmothers spread the fruit out to dry on the roof of the cook-house lean-to. The new food-saving measures are not entirely new or strange to us.

There are matters, however, where the wisdom of our grandmothers will not do. They were dealing with natural conditions; we are up against the most confusing of abnormal conditions. We have to keep our heads, under an uncomfortable fire of criticisms and doubts and conflicting doctrines. Of just one thing we are sure—our men on the battle-line need wheat, and beef, and bacon, and they are looking to us to send it to them. They are not stopping to question orders, to ask why they must do certain things, it is only on this side of the ocean that people have the time or safety for that. Even if substitutes for the foods they need were more expensive, our duty would be just the same, to send them; but substitutes are not more expensive. It is not the problem of cost that is most serious; the thing the housekeeper wants to know is what she can use to take the place of wheat and beef and bacon without endangering the health of her family. She has learned that certain popular thrift theories must be taken with a lot of common sense. The idea that you can build up any kind of a meal with a soup bone for a corner-stone is only a fairy-tale to an intelligent woman to-day, and because she has outgrown these delusions, she wants to know just what nutritive values the common foods really have. These she can learn by studying for herself just as the farmer learns what foods are most nourishing and wholesome for his stock.

But after all the thing that hinders most the getting of food to our soldiers and the hungry families of our Allies is that we don't realize yet just how things are over there. Even when those who have made the latest investigations tell us that the allied nations are facing a shortage of 400,000,000 bushels of grain, and that their meat supply shows a shortage of 100,000,000 animals, we don't awaken to the seriousness because we have no conception of the meaning of hundreds of millions. A woman's imagination gets the picture more vividly when she thinks of women and children living in cellars of houses that have been bombed or burned almost over their heads. We have our own homes here untouched, with light and warmth, and love and protection. In these other homes it is different. First, the man went, and with him all comfort and security. Then actual want and suffering came; standards of living dropped lower; food became plainer and scarcer, and such news come back from the front as left no future for the woman that she could dare to think of—only she tried to keep her children from starving.

Stories of all this come to the woman in Canada as she works about the cheerful fire in her own safe kitchen, and she wishes these suffering people had as much food as she has, that their babies were not half-clad and starving. Sometimes her sentiment ends there; she doesn't see that any little change which she could make in her mode of living would be worth considering; she would rather have the difficulty solved in some other way. There are other women whose sympathy goes deeper. They also realize the bigness of the issue and the possibility of mistakes, but without waiting to question some other person's policy a plain little card in the window says: "As for me and my house——."

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THE MONTH'S RECIPES

By GENEVIEVE

HOME-MADE WAR BREADS

RAISED BROWN BREAD

2 cups corn meal.
¼ yeast cake
2 cups rye flour
½ cup molasses
1 teaspoon salt
⅛ teaspoonful soda
¼ cup luke warm water
2 cups boiling water

Pour the boiling water on the cornmeal. When lukewarm, add dissolved yeast cake and remaining ingredients. Beat well, let it rise over-night, beat again and pour into greased bread pans. Bake in a moderate oven from one and one-half to two hours.

ROLLED OATS BREAD.

2 cups boiling water
½ cup molasses
½ tablespoon salt
1 tablespoon butter
½ yeast cake dissolved in
½ cup lukewarm water
1 cup rolled oats or oatmeal
4½ cups flour

Add boiling water to oats and let stand one hour. Add molasses, salt, butter, dissolved yeast cake and flour. Let rise, beat thoroughly, turn into buttered bread pans, let rise again and bake.

SWEET MILK BROWN BREAD

1 cup white flour
2 cups graham flour
¾ teaspoon soda
1½ teaspoon salt
¾ cup molasses
1¾ cups sweet milk

Sift the soda and salt with the flour, add the molasses and milk, and beat well. Pour into a greased mould and steam three hours.

HEALTH BREAD

3 cups bran
1½ cups graham flour
1 cup white flour
¾ cup molasses
1 teaspoon baking powder
2 cups milk

Sift together the dry ingredients. Beat in the milk and molasses, pour into greased pans, and let stand in the pans for about one-half hour before baking. Bake about one and one-quarter hours in a slow oven.

BRAN BREAD

2 cups bran
2 cup white flour
1 cup brown sugar
1 cup sour milk
1 teaspoon soda
1 teaspoon salt

Sift the salt and soda with the white flour. Add the bran and sift again. Add sugar and beat in sour milk. Bake in greased pans.

BRAN BREAD

2 yeast cakes
2 cups milk, scalded and cooled
1 cup lukewarm water
½ cup molasses
7 cups flour
5 cups bran
4 tablespoons lard or butter
2 teaspoons salt

Dissolve the yeast in the lukewarm water and milk. Add molasses and four cups sifted flour. Beat well. Add the bran, lard or butter, salt and the balance of the flour, or enough to make a dough that can be handled. Knead well, cover and let rise until double in bulk. Divide into loaves and place in greased pans. Let rise until double in bulk and bake in a moderate oven.

POTATO BREAD

3 pounds potatoes
1 cup lukewarm water
5 to 6 cups whole wheat flour
1½ tablespoons salt
3 tablespoons sugar
2 cakes compressed or dry yeast softened in ½ cup lukewarm water

Boil the potatoes in their skins until very soft. Pour off the water, and peel and mash the potatoes while they are still hot. When the potatoes are lukewarm add the dissolved yeast cake, then the other cupfuls of water and the salt and sugar. Mix into this one scant cupful of flour, and allow the sponge to rise for about two hours. Add the remainder of the flour and knead thoroughly until the dough is smooth and elastic. Let rise until nearly double in volume, then knead and shape into loaves. Let these rise to double their volume and bake.

JOHNNY CAKE

1 cup yellow corn meal
1 cup bread flour
1-3 cup sugar
1½ cups sour milk
½ teaspoon soda
½ teaspoon baking powder
1 teaspoon salt

Mix and sift the dry incredients twice, and gradually add the sour milk. Beat well, and bake in a shallow greased pan, in a moderate oven.

VIRGINIA CORN BREAD

1 cup corn meal
½ cup boiling water
½ cup bread flour
1 egg
1 teaspoon baking powder
¼ teaspoon salt
1-3 cup grated cheese (optional)

Stir the boiling water into the cornmeal, add the beaten egg and stir in flour, salt and baking powder, sifted together. Stir in the grated cheese. Mix quickly, and drop by tablespoonful in a hot frying-pan greased with bacon fat.

CORNMEAL GEMS

½ cup corn meal
1 cup flour
3 teaspoons baking powder
1 tablespoon sugar
1 tablespoon melted butter
½ teaspoon salt
¾ cup milk
1 egg

Mix and sift dry ingredients; add milk gradually, egg well beaten, and melted butter. Bake in hot oven in buttered gem pans for about twenty minutes.

BUCKWHEAT GEMS

½ cup sugar
1 egg
3 tablespoons butter
1 cup milk
1 cup buckwheat flour
¾ cup white flour
2 teaspoons baking powder
½ teaspoon salt

Beat the sugar into the egg and add the melted butter. Add alternately the milk and buckwheat flour, then the white flour into which the baking powder and salt have been sifted. Bake in greased gem pans.

PRACTICAL BEEF SUBSTITUTES

BEAN ROAST

1 lb. cooked beans
½ lb. grated cheese
Dry bread crumbs
Salt and pepper

Method. — Have beans soaked over night; drain, rinse and cook till tender. Mash beans, or put through meat grinder. Add the cheese and sufficient bread crumbs to make the mixture stiff enough to be formed into a roll. Bake in a moderate oven, basting occasionally with water and pork dripping. A slice of onion added to the basting water is an improvement.

CORNMEAL SUPPER DISH

Make fairly stiff cornmeal porridge. When cold pack in small bread tin. Turn out and cut in slices. Dip slices in flour and fry in well greased pan. Brown well on both sides and serve with syrup. This may be made from left-over porridge.

NUT LOAF

1 cup rice
2 cups dried bread crumbs
1 tablespoon chopped parsley
2 teaspoons salt
1½ cups peanuts ground fine
Speck pepper
1 tablespoon dripping
1 egg well beaten
About 1 cup milk

Cook rice in boiling salted water; drain, add to it all the other ingredients, using enough milk to hold the whole together. Shape into a loaf, place in baking pan with a little water to prevent scorching and bake 20 minutes. Serve hot or cold with tomato sauce or white cheese sauce.

SPLIT PEA SOUP

1 cup dried peas
1½ quarts cold water
1 slice onion
2-inch cube of salt pork
2 tablespoons flour
Salt and pepper to taste
1 pint milk

Pick over peas and soak over night in cold water; drain and rinse; add the 1½ quarts cold water, pork and onion. Simmer till soft; rub through a sieve. Mix flour with an equal measure of milk, thin it down with a little more milk; stir in slowly into the scalding liquid (*i.e.*, from peas); add salt and pepper, then the remainder of the milk. Bring to steaming point and serve.

LIMA BEANS WITH VEGETABLES

2 cups dried Lima beans
1 cup dried potatoes (optional)
1 cup diced carrots
1 onion cut in pieces
½ cup diced turnips
¼ lb. fat salt pork
1 cup whole barley
Salt and pepper to taste

Soak beans over night; drain and rinse in the morning, then simmer for 2 hours in salted water. Add pork cut in pieces and all the vegetables, and cook till tender (about one hour). The barley should be soaked half hour in cold water, then add to the rest about half an hour before the vegetables are done. Season to taste and serve hot. An excellent meat or potato substitute.

A BUNGALOW FOR PRAIRIE FARM

Continued from page 16.

will also take a great deal of work out of the house. There are tents manufactured especially for this purpose, but even if the farmer built a cottage it need only be a very simple affair, and as the men get their meals in the house, little furniture will be required.

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Oshawa - Ontario

Maybe buying Matches Never Struck You as Being an Important Job!

But It Is.

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THE MATCHES WITH NO AFTER GLOW

Every stick of the silent 500s is dipped in a chemical solution which ensures the match becoming absolutely dead wood once it has been lighted and blown out.

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Music in the Home

This department is opened in order to give some prominence to what has come to constitute a large part of our rural homes—music. No house is complete without some form of music and music is confined to no form or to no instrument. The joys of song, the beauty of the human voice, the music of children, the divers instruments that furnish sweet sounds, all soothe as well as write the histories of our national joys and woes. In ancient times we read that the wine press was trodden and the vintage which closed the harvest, was gathered with a song. The farm home of Canada that carries no music in it, is either deserted or brewing discontent.—Editor.

My Favorite Song

My favorite song is entitled Smiles. I suppose that it would belong to the better class of music. It is written by Ella Wheeler Wilcox, and has been set to music by Kathleen H. Maxwell. It reads as follows:

Smile a little, Smile a little
As you go along.
Not alone when life is pleasant
But when things go wrong.
Care delights to see you frowning,
Loves to hear you sigh.
Smile a little, Smile a little
Quick the dame will fly.

Smile upon the troubled pilgrims
Whom you pass and meet.
Frowns are smiles, and smiles are blossoms
Oft for weary feet.
Do not make the way seem harder
By a sullen face.
Smile a little, Smile a little
Brighten up the place.

Smile upon your undone labor,
Not for one who grieves.
O'er your task waits wealth or glory;
He who smiles achieves.
Though you meet with loss and sorrow
In the passing years,
Smile a little, Smile a little
Even through your tears.

—Ethelbertha Smith.

Gramaphones in the War

Three hundred gramaphones are divided among the Canadian troops in France alone. Gramaphones will also accompany the United States soldiers, and as a start a New York man has bought seventy-five of them to be sent across to Pershing's men as his personal contribution, through the Y.M.C.A.

Mr. Bradt, general manager in Canada of a gramaphone company, says that the war has not hit the gramaphone industry to any serious extent, and in Canada business has advanced wonderfully. As an instance, last June's sales were 127 per cent. better than those of June, 1916, a record month, when business was 700 per cent. better than it was five years back.

Music At the Front

Britain's War office said there shall be no music in this world struggle, nothing but grim WAR! Little did it reckon that MUSIC was life itself; that to deprive the boys in the trenches of music was to play the God of War's own game. The boys from Canada, Australia and England along the battle-line cried, "Give us music." MUSIC WON. The instruments of Harmony and Happiness were rushed to the boys at the front.

There is no room for the God of War in the world of music. He will retreat into the black night of oblivion before the advancing hosts of Harmony and Happiness, and so it is in the Canadian home today. Music should play such a prominent part that the God of War will bow before the God of Music.

There are a great number of homes in Canada starving for the want of music—homes that are crying for the wonderful inspiration, the softening influence, the great happiness that music — and only music—can bring into their lives. There are families whose children have reached the age where music is a necessity in their life—where its absence now can never be made up later.

After all, the only thing that makes life worth living—the things we are really fighting for—are our homes, our families, those we love. And of what use is our money but to brighten and make happier the lives of those we hold dear. And there is no way in all this world that we can do this more effectively than to add music to our homes.

Whether we be soldiers, farmers, munition workers, laborers, bankers or whatnot. Whether we go or whether we remain, that holds true, and the man or men who seek to curb or break this great fact and deny this right to our homes, by inspiring fear or fostering false economy, are not true friends to Canada and its future citizens.

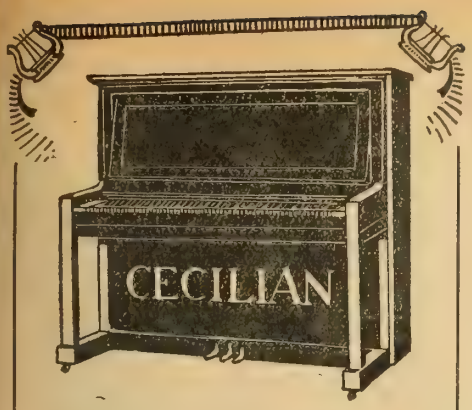
The home without music is like a garden without sunshine, for a Beethoven said: "Where the piano is there is the happiest home."—F.A.T.

Wants the Song

J.F.W., Nova Scotia.—I am a subscriber to the FARMER'S MAGAZINE *and am greatly interested in the music page. I notice in your August number the refrain of a lovely song, which begins, "In God's own keeping I leave you dear."*

Would like to know the name of the song and where I could obtain same, also price.

Answer.—In God's Own Keeping can be obtained from most music dealers. It is published by Edwin Ashdown, Ltd., London, Eng. The Canadian agent is 144 Victoria St., Toronto. The price is 60 cents.



Your Daughter Must Have Opportunity

The time has passed when a musical education was barely considered for the girl brought up on the farm. Motor cars and Radial railways have brought the city and farm into close touch and your daughter's musical education is a very important consideration.

What better choice can you make than

THE World Famous CECILIAN PIANO

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Cecilian Upright Pianos are all convertible into players at your convenience, while the Cecilian all-metal action Player Pianos are the world's standard.

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Pattern Service for Our Readers. Be Sure to Send Full Name and Address When Ordering Patterns.

8325.—LADIES' APRON —The neck is in two outlines and the sleeves in full or shorter length. If made as illustrated,

8325

8325

the medium size require 4 yards of 36-inch poplin for apron and 3 yards of banding to trim. Price, 15 cents. Sizes 34, 36, 38, 40, 42, 44, 46, 48 inches bust measure.

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BENSON'S CORN STARCH

Benson's gives a smooth, even texture to your baking when mixed with wheat flour.

Write for free Cook Book.

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MONTREAL. 4

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We make it very easy for you to own a Newcombe Piano or a Newcombe Player Piano, which makes perfect music possible for the least skilled.

There is a "Newcombe" to make your home brighter. May we help you choose it?

Prices from $300 and upwards. Terms easy.

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A suit or dress, no matter how good its style or tailoring, is no better than its cloth. A few wrinkles, a little stretching will ruin the most fashionable and finely tailored gown ever made.

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This cloth, in a wide variety of color and weaves, from the famous mills at Bradford, Eng., is on sale at leading stores throughout Canada.

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waist measure. If made as illustrated, the medium size requires 7 yards of 42-inch wool jersey for dress, with ¾ yard of 42-inch blue jersey for bands on blouse and sash. Price, 15 cents each.

8539 8488 8629

8539.—JUNIORS' AND GIRLS' ONE-PIECE PLAITED DRESS.—With one-seam sleeves in full or shorter length. As shown on the figure, size 12 years requires 3¾ yards of 36-inch figured voile for the dress with ¾ yard of 36-inch thin silk. Price, 15 cents. Sizes 8, 10, 12, 14 years.

8488.—GIRLS' AND LITTLE GIRLS' DRESS.—Suitable for flouncings or other materials. Size 6 years requires 2½ yards of 36-inch white dotted swiss for dress, 3½ yards of lace insertion, 4¼ yards of edging and 2 yards of ribbon for rosettes. Price, 15 cents. Sizes 2, 4, 6, 8, 10, 12 years.

8629.—JUNIORS' AND GIRLS' ONE-PIECE DRESS.—Having an underbody with one-seam sleeves in full or shorter length. Size 14 years requires 3 yards of 42-inch satin for dress, with ⅜ yard of 36-inch white satin for collar. Price, 15 cents. Sizes 8, 10, 12, 14 years.

TEST EACH PULLET

Continued from page 13.

after they are closed in. Leg band your birds and keep an accurate record of each bird's performance. If you do this keep only those birds that yield thirty eggs during the three months' tetss. These should lay an egg at least 1¾ oz. in weight. All this may seem hard work and drastic, but if a farmer wants laying stock he should be willing to do as much work to obtain it as he does to grow a field of roots. Why does he expect to receive paying returns from his poultry if he neglects them, any more than from the root field if he neglects it? It is a recognized piece of common knowledge that breeding comes before feeding. If a pullet has it in her it is almost impossible to stop her from laying. If she has not got it in her nothing can get an egg out of her, not even poultry spice and mustard. Hence the necessity of selection, and the trap nest.

Feed oats liberally to layers, especially to those of moderate fecundity. It keeps them from getting too fat. Never run pullets with older hens.—Geo. P. Bosanquet.

Pigs in Saskatchewan

Last year a neighbor of mine bought two brood sows for $50 each. From these he raised 24 pigs, selling all but two of them for $532. He kept the other two eggs for their homes and remember the for his own use and has the sows left. They ran out on stubble a good deal and their pens were not expensive as a strawstack furnished the most of the protection. The feed that he either bought or used of his own amounted at market prices to $340. His two sows are worth now at least $120, and the two pigs $66. Thus he made a profit on actual outlay of $278 to cover overhead expenses, interest and labor. It was a fair profit, but none too great for the trouble.—A.R.L.

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These goods are made in Canada and pay no duty, so the shopper gets 100 per cent. value in the materials. Ask for our "Steelclad" Galatea for house dresses and children's clothing, "Rockfast" Drill for working dresses, etc.

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Quickest! Cheapest! Best!

$50 and Up

A Kirstin One-Man Stump Puller instantly gives you a **GIANT'S POWER**—makes you master of **any** stump! Many Kirstin owners pull stubbornest stumps in 4 to 10 minutes!—AS CHEAP as 5 CENTS per stump!

Kirstin

Just a few **pounds** on the handle means **tons** on the stump. When stump starts, throw machine into high speed and out comes the biggest stump, roots and all. Positively no other machine like it. Has special, patented features. Recommended by leading Agricultural Schools and Forestry Bureaus.

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550 Dennis St. Sault Ste. Marie, Ont.

All queries must be accompanied by the writer's name and address. If personal answer is required, enclose a 3-cent stamp. Address all correspondence to Grasmere, THE FARMER'S MAGAZINE, *Toronto, Canada.*

Bees In Evergreens

W.H.M., Ontario.—In answer to a query in the August number of FARMER'S MAGAZINE, viz.: "Bees in Evergreens" I venture to give the following explanation: The bees were attracted to the Norway spruce trees to glean the honey dew given off by aphids which suck the sap from the new growth of twigs. I am no beeman only a scrub nature student.

Cocked Ankle

N.E.G., Ontario.—I have a horse that has a knuckling fetlock on his hind foot. He is lame when he steps crooked and when he starts to trot. Would you please tell me how, if I can treat this at home and if it would be best to keep him shod?

Answer.—It is known as cocked ankle. This condition does not yield readily and quickly to treatment. The horse should be given rest and it is generally considered wise to remove the shoe. Get a blister made of two drams each of bimiodide of mercury and cantharides mixed with two ounces of vaseline. Clip the hair off around the joint and rub the blister well in. Tie him so that he cannot bite the part. In twenty-four hours rub well again with the blister and in twenty-four hours longer apply sweet oil. Turn him loose into a box stall now, and oil every day until the scale comes off. Then tie up again and blister as at first. After this a blister can be applied about once monthly, as long as required. Unless you can give him rest all that you can do is to apply cold water and bandage the joint when in the stable, and when you remove the bandage rub well with a stimulant liniment as one made of one ounce each of tincture of iodine and tincture of arnica, one half ounce gum camphor, one ounce oil of turpentine, four ounces extract of witch hazel and alcohol to make a quart. —V.S.

Where Station Is

P.G., British Columbia.—I read an interesting article in your June number of the FARMER'S MAGAZINE, *entitled Getting a start in British Clumbia. Would it be possible to give the name of nearest station in the locality? Any information on the subject I should be gratified for.*

Answer.—This writer lives in Vancouver and is familiar with all the coast country.

Wants Serial In Book Form

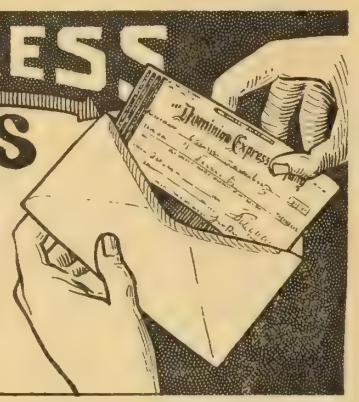
J.A.C., Manitoba.—I would like to know if it is possible to obtain the serial, God's Green Country in book form, as I would like to distribute it among some of my young friends on the farm? If you could let me know in regard to this would be very much obliged.

Answer.—The serial God's Green Country has just appeared in FARMER'S MAGAZINE and not in book form. I am urging the author to do so but in any event, it would be unlikely to appear until 1918, when we would fully announce it. I agree with you in thinking that it would be a fine present to make to young folk. It is one of the finest rural life serials that has appeared for some time.

License to Buy Wheat

A.R.P., Saskatchewan.—Must a man be licensed by the Board of Grain Commission before he is permitted to buy grain on street and store same in private ware-

DOMINION EXPRESS MONEY ORDERS



There is no better way to pay your out-of-town accounts.

	$ 5.00 and Under	Costs	3 Cents
Over	5.00 to $10.00	"	6 "
"	10.00 to 30.00	"	10 "
"	30.00 to 50.00	"	15 "

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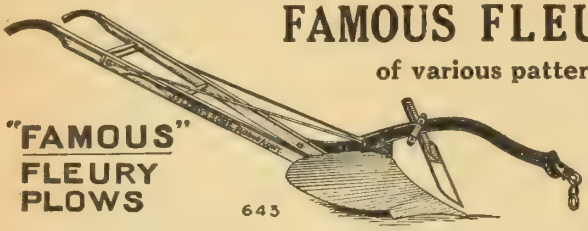
of various patterns for all soils



No other Plow runs so smoothly, has such ease for horses and comfort for the plowman as the Famous Fleury Plow.

Over One Hundred Thousand of the Famous Fleury Plows have been made and bought and used. They have turned and are to-day turning the best furrows that Ontario has known.

We are the makers of the "Original No. 21," the LIGHT DRAUGHT NO. 13, and the best One-horse Plow in Canada—No. 15A. These Plows are IMITATED—and often given the same number—by nearly all larger Canadian Plow Manufacturers. For one reason only—because these Famous Fleury Plows surpass all others in QUALITY of work in the field—in COMFORT for MAN and ease for horses. Buy only the ORIGINAL and BEST.

Write for our special Plow Folder.

J. FLEURY'S SONS, AURORA, ONT. Medals and Diplomas, World's Fairs, Chicago and Paris

The one medium of quality and of national circulation is *MACLEAN'S MAGAZINE.* You can find no substitute for it at a lower cost, and none that will carry your proposals or announcement with greater acceptability.

Published by The MacLean Publishing Co., Limited, 143-153 University Ave., Toronto

house to ship for his own account? Thanking you for the value lent by your work in the good FARMER'S MAGAZINE.

Answer.—I have never heard of any such regulation about street buying of wheat. I do not think you will have any license to pay to the Board of Grain Commissioners unless, they are issuing such an order at the present time. It does not seem at all likely that they will do this.

ZAVITY ADVISES PLANNING

There is probably no class of people who are working harder or are more desirous of giving helpful and substantial service at the present time than the farmers of Ontario. They are striving under great difficulties owing to the scarcity of labor, the abnormal weather conditions, and the great demands for food materials.

People in the farm homes throughout Ontario should so plan their farming operations as to receive the greatest returns for the time and labor expended. The farmers of Ontario have put forward a very great effort to increase food materials in the present year, and they may be relied upon to do their utmost in 1918. Toward this end, a careful planning of the work during the present season will help greatly in the production of essential food materials in the year to follow.

WHAT ABOUT CATTLE FEEDING

Continued from page 11

Cattle increased 7,090,000 in the United States, while the total world's decrease was 28,080,000. Sheep decreased 3,000,000, while the world supply was diminished by 54,500,000. Hogs increased 6,275,000 in America, but the general supply decreased 32,425,000.

August has witnessed the highest prices for cattle and hogs in Canadian history.

Speaking of the eccentricities of the markets for farm produce the *Breeders' Gazette* says, editorially, that in contrast to the possible drop in wheat prices on the conclusion of the war, stands sharply the meat situation.

A world shortage unquestionably exists, and the declaration of peace would stimulate the demand materially. Labor is certain to be employed during the years of world-rebuilding at profitable wages and the fundamental structure of the meat trade has been the requirements of the laboring classes. It seems difficult to conjure up conditions which would make for a marked recession in the abnormally high prices for market stock until volume of supply is again increased. And a two-year-old steer is not made in a minute, nor a 250-pound hog. It is certainly a test of the farmer's faith, and doubtless most of them would welcome such definite assurance as that on which the wheatgrower may now confidently rest his seedling, but the practical difficulties are almost insurmountable and the necessities far less. The wheat farmer could readily produce a burdensome surplus, but such a possibility is not in present sight of the feeder of meats. Unquestionably the dairymen must have relief from both directions.

KNITTING MACHINES
HOME MONEY MAKERS

The war has created an unprecedented demand for **Socks-for-the-Soldier-Boys** and affords a Grand Opportunity to anyone interested in uniting Loyalty, Patriotism and Self-Interest by Investing in a First-Class Family Knitting Machine for **Red Cross Socks, Money-Making, Home Work and Military Socks.**

Do It Now—Write for our Free Latest Catalogue No. 101, with **Special War Offer** to Red Cross workers during the war only. **Your Choice of 6 Machines.** Agents wanted for our Home-money-maker-machines. Address

CREELMAN BROS., M'fgr's
Box 677 Georgetown, Ont.

Buy HALLAM'S Guaranteed

FURS

BY MAIL Direct from TRAPPER to YOU

FREE

A beautifully illustrated Fur Style Book—giving advance information on furs and fur fashions and containing 125 illustrations of up-to-date Furs and Fur Garments—All these illustrations are photographs of living people—thus showing how the Furs REALLY appear, it shows Furs for every member of the family.

Don't fail to send for this book TO-DAY—it is now going to press and will be mailed as requests are received.

HALLAM'S 1917-18
FUR STYLE BOOK

1506

No matter where you live, you can obtain the latest styles and the highest quality in Fur sets or garments from Hallam's by mail. All Hallam garments are high quality Furs—yet can be obtained by you direct by mail at lower prices than elsewhere for the same quality—every Hallam garment is guaranteed.

Why We Can Sell at Such Low Prices

Because, in the first place, we buy our skins direct from the Trapper, and sell direct to you for cash, saving you a great share of the middlemen's profits—high store rent—bad accounts—salesman's salaries. Then you are sure of satisfaction when you buy by mail from Hallam. You see the articles in your own home and can examine them without interference—if the goods do not please YOU in any way—you can simply send them back AT OUR EXPENSE, and we will cheerfully return your money—you are not out one cent—we are thus compelled to give extra good value as we cannot afford to have goods returned. The articles illustrated in this advertisement are fair samples of Hallam's great values and will be sent promptly on receipt of price.

1506. Driving Coat of Fine Muskrat. 45 inch length, beautifully designed. Skins are of fine quality; even, dark colors, carefully matched, and workmanship is faultless. Lined with heavy guaranteed brown satin—new style collar, which can be worn as a high Chin-chin or flat as in small illustration. Finished at waist line with half belt. In sizes 32 to 42, bust.
$75.00, delivered to you.

1508. Muff to match in new melon shape (as illustrated), or in pillow style.
$11.50, delivered to you.

1507. Hat to match, silk lined. **$7.50**, delivered to you.

1686. Handsome Manchurian Wolf Set. Newest design, made from fine, jet black silky skins. The large stole is in two skin style, wide across the back and shoulders—trimmed with heads, tails and paws. Muff is large and comfortable, made over soft down bed—has wrist cord and is trimmed with head and tail—lined with corded silk poplin. Exceptional value.
$13.50 per set, delivered to you.

Don't forget to send for Hallam's Style Book to-day—it's FREE—Address as below, in full, please.

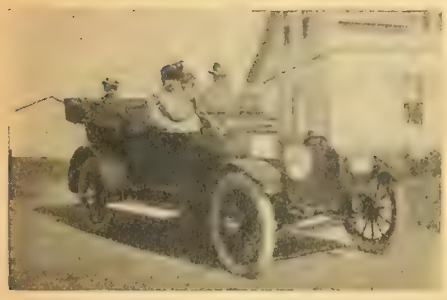
John Hallam Limited

218 Hallam Building
TORONTO

The Motor Car Pays the Farmer

The Ancient Virtues of Thrift and Economy Still Hold an Honored Place on the Farm

By ANDREW McTAGGART



An automobile costs from $500 to $1,000 John Young, of Alameda, Sask., finds that its upkeep is not so high as a team of road horses, and decidedly less in regular attention. Twenty miles would be a noon spell trip.

CIVILIZATION should give thanks at least every twenty minutes that farmers are not given to keeping up with the Jones? Amongst farmers the ancient virtues of thrift and economy still hold an honored place. There are exceptions that prove the rule, but such instances are carefully noted and serve as reminders of bad practices that are honored in the avoidance.

Nor can it be truthfully said that farmers are non-progressive. Farmers, like others who have their living to make, find that they must help themselves along by every mechanical device that gives them a better control of the forces of nature. They well understand from hard experience that the soil and the air will yield their best to the farmer who applies the best usable knowledge. They have learned the folly of looking for the best results in the struggle when the body is weak and the brain fagged. They have further learned that to get the best returns from their labor, they must offer their products to the man who wants a good thing and who has the cash to pay for it. Plenty of muscle and a good appetite were once thought of as a farmer's main assets. To these assets the modern farmer who is coming out on top adds plenty of brains and the facilities for keeping the appetite lively and the brain active.

In all this economy the farm car has won an honored place.

"It was this way with me," one farmer told me. "Farmers can't well be long away from their farms at a time. Unless I'm on the job as a rule I'm at market or at church. At the same time all the good ideas are not under my hat and I find it good business to take a short trip once in a while to see how the other fellow does things. Just now my special line is Holsteins. Every summer I take a few trips to see other herds. The car allows me to see two or three such herds in a single day. Letter writing is very good, but I have found that there is nothing like a first hand inspection. My car has paid for itself twice over in the saving it has effected from this source. Not only have I had the satisfaction of getting what I wanted, but I have picked up ideas in herd management that have helped me tremendously."

"We do a great deal in the butter and egg business," said a second farmer. We make up about a hundred pounds of butter per week and secure about thirty dozen eggs at the same time. These we sell to private customers. When the thermometer is between eighty and ninety it is a great satisfaction to have these articles in the customer's hands as soon as she is up in the morning. It is still more satisfactory for me to be back on the land in time to do a fair day's work. Before I got the car I had to be up at all hours to get to town before the butter was melting. Do my best, I could not get home before noon, and then I was tired and the horses fagged. Now I make the trip in less than one-third of the time taken in the old days. I'm rested rather than tired by the trip and the horses are quite freshened up by their extra hour or two in the stable and more than make up for lost time before the week is out."

> The following news item appeared in the local correspondence of a bright country weekly lately:
>
> F. H. Westney was in Toronto last week and brought home a ——— roadster, equipped with an ——— delivery box, by means of which the car can, in a few minutes, be converted into a truck that will carry nearly half a ton. Mr. Westney also intends to use a trailer in delivering his milk to the station. The motor car, in the last few years, has reached such a state of efficiency that to a farmer with much driving it is not only a luxury, but is felt by many to be almost indispensable in the running of a farm, especially in such an abnormal year as the present.
>
> That is why the farmers have been the heaviest purchasers of cars this season.
>
> —Editor.

"Frankly, I bought my car for the pleasure I expected to get out of it. I now see some of my country.

A team, carriage and harness, serviceable, ready for emergency, and stylish, cost fully $650. Twenty miles would be a big drive.

On grounds of financial returns the farmer is finding the car a paying investment. Of course judgment is required in the purchase and use of a car. Many *used* cars serve all the purposes the farmer requires. When such a purchase is made the farmer needs to have his spectacles on in order that he may not purchase an *abused* car. Varnish and a glib-tongued salesman often covers up a multitude of car defects that will come out with using. Fortunately for the average farmer, he has some experience with machinery and he need not pay over any cash till he is convinced that the car purchased will give satisfaction in every particular. The farmer who has brains enough to run a car, may be trusted for making a good bargain.

"Frankly, I purchased my car for the pleasure I expected to get out of it," said another farmer. "Of course, the car serves me many a turn in getting repairs when an unexpected breakdown occurs. It is just the thing for small marketing and for business trips, but what I had in mind in purchasing was the pleasure the family would have out of it. There are the four of us and we work hard. I saw that we were likely soon to be drudges rather than workers. The buggy would not hold all of us and we were likely to have but little time or opportunity of taking little pleasure trips as a family. The car has helped us out in this regard. When a good thing comes to the town we can enjoy it together. We live about four miles from church, but now we are all there together and we can get home before we are unduly hungry. Do what we will, the little bunch is going to separate some day and in the meantime I'm going to get all I can for them as a family. By having the car we'll make just as much

Continued on page 35.

Farmer Motorists!

When trouble occurs slip into a pair of

Carhartt's Safety First Allovers

Made of one piece heavy material, and are of liberal proportions so that they are easy to slip on and off. Patent pocket prevents tools from falling out when leaning over.

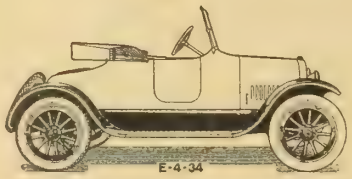
Motorists were first to take up this garment, but it is proving so practical that it is being adopted for general use on the farm.

Ask your dealer. If he cannot supply you, write us.

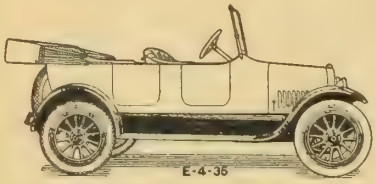
Hamilton Carhartt Cotton Mills, Limited

Toronto Montreal Winnipeg Vancouver

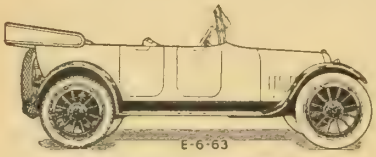
Announcing New Series "E" McLaughlin Leaders in All Points of Merit



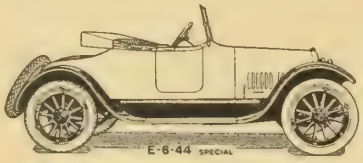
McLaughlin 2-Passenger Valve-in-Head Roadster



McLaughlin 5-Passenger Valve-in-Head Touring Car



McLaughlin "Light Six" Valve-in-Head Touring Car
E-6-62 is a Roomy Roadster Built on the Same Chassis



Gentleman's 3-Passenger Valve-in-Head Roadster
E-6-44 Regular, Built on the Same Chassis

The New McLaughlin Models Eclipse all Previous Standards of Beauty and Value

EVEN more graceful in design with greater power the new series "E" more than maintains the supremacy accorded "Canada's Standard Car" for eight successive seasons.

The famous McLaughlin valve-in-head motor develops more power than any other type of motor of the same bore and stroke, and develops this reserve power with the minimum gasoline consumption. Every mechanical feature of McLaughlin cars has been perfected to the same high standard of efficiency as the motor.

McLaughlin designers and engineers have built 12 body styles of rare beauty—worthy masterpieces of our coach builders' art.

This complete line of 12 new models built in one group of factories and distributed by 12 branches and over 300 dealers from coast to coast includes a car for every need.

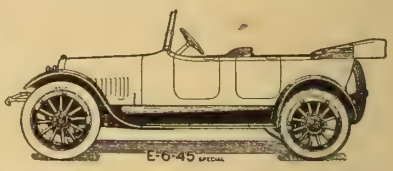
See the new series "E" before you buy your car.

SEND FOR NEW CATALOGUE

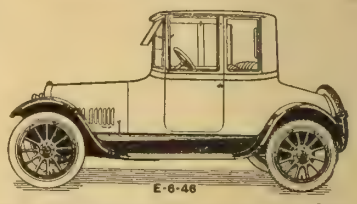
"WHEN BETTER AUTOMOBILES ARE BUILT, McLAUGHLIN WILL BUILD THEM"

See this New Series at the Toronto Exhibition

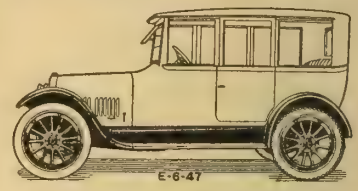
VALVE-IN-HEAD McLAUGHLIN MOTOR CARS



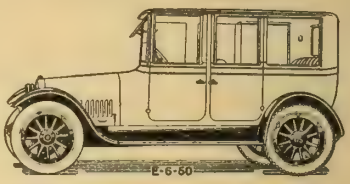
McLaughlin 5-Passenger Valve-in-Head Touring Car
E-6-45 Regular, Built on the Same Chassis



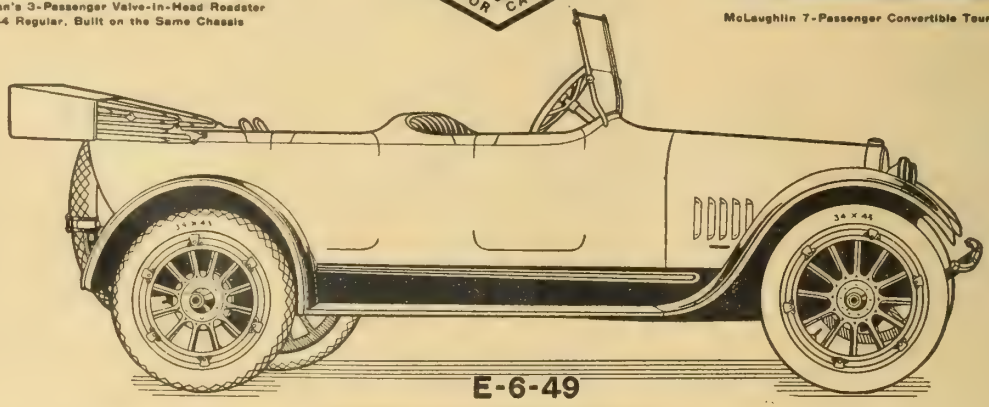
McLaughlin 4-Passenger Valve-in-Head Touring Coupe



McLaughlin 5-Passenger Convertible Sedan



McLaughlin 7-Passenger Convertible Touring Sedan



E-6-49
McLaughlin 7-Passenger Valve-in-Head Touring Car

The McLaughlin Motor Car Co. Limited, Oshawa, Ont.

THE MOTOR CAR PAYS THE FARMER

Continued from page 32.

money, to say nothing of our leading a great deal more human sort of life."

And so the car has come to be, for the farmer, not a luxury, but an adjunct to his welfare. The world has moved on. Its currents are running fast and deep, but the farmer with a steady head welcomes the change and he is taking his place along with the most progressive. Farming may cost more than it did formerly, but it is a life that every day is becoming more worth living.

Further, the farmer has an advantage over most car users in the fact that he has considerable experience in the use of machinery. The old-fashioned power mill has for years largely been displaced by the gasoline engine, and the engine is the very heart of the car. No farmer can get on these years without a somewhat extensive equipment of tools. Hence he is ready to face a good many car troubles in the light of experience with machinery and gasoline engines. What is better than being able to repair machinery, the farmer is able to prevent breakages because he has learned to look machinery over before turning on the power. It is this looking over before starting on a trip that saves many a car accident. The farmer who knows the importance of feeding and watering a horse and of properly oiling and "washering" a buggy, particularly if he ever has suffered from neglect of any of these precautions, will not neglect the gasoline oil and water that must be looked to if a comfortable ride is to be taken on a car.

In nearly every neighborhood, there is someone who has given engines and machinery a good deal of attention. Such a person will render effective service in minor car difficulties. The farm that has what many farms are enjoying as part of their regular equipment, a small repair shop with bellows and forge and kindred tools, may well look over a car at frequent intervals. If the farmer car owner will but read his directions and drive his car with ordinary care, he need look for but little trouble. The stitch in time will save more than nine out of every ten car troubles. Gasoline depots are to be found in every village, while the farmer who owns an engine for farm work, particularly if he owns a farm tractor, will have his own drum and need never be out of a supply.

Farmers Buy Most Cars

The states in the fertile Midwest of the U.S.—where corn, oats, hay, hogs, horses and cattle are kings—have a larger number of cars, proportionate to population, than the big states of the East, where the so-called money kings of the country live in their fine marble palaces, says *The Homestead.* For instance, Iowa leads New York, Massachusetts, Pennsylvania and all the big eastern states in this matter—although Iowa has no millionaires in the sense in which the Pittsburgh steel barons and the New York stock barons are known. Yet Iowa has one motor car for every eleven people (men, women and children), while New York has one for every thirty-two. In other words, the chance of being prosperous enough to own a car is three times as great in Iowa as it is in New York.

Let us look at the other grain-belt states in the list for a minute. In Nebraska there is a motor car for every twelve persons; in Kansas one for every fifteen; in Minnesota one for every sixteen; in Wisconsin one for every nineteen; in Illinois one for every thirty; in Missouri one for every thirty-one. In brief, the number of people proportionate to each motor car is less in every one of these seven grain-belt states than it is in New York, which most of us look to as the richest and greatest state of the Union.

Motor Trucks in Hawaii

Motor trucks and automobiles, which five years ago were considered a luxury on sugar plantations in Hawaii, are now every-day necessities. It has become more and more general to supply small cars to overseers, timekeepers, and others. This not only facilitates their speed, but increases the efficiency of the men very materially.

The truck also is replacing the pack mule and wagon for transportation purposes, and is extremely valuable for carrying seed and fertilizers into the field and for hauling general freight and supplies. The use of motor trucks to take laborers to and from work is coming into general use. The amount of time and energy saved in this way more than compensates for the added cost.

Tractors in England

Up to three months ago, says a writer in a trade journal, there were 1,200 to 1,500 American-made tractors in Great Britain. It is doubtful, he thinks, if 7,000 to 10,000 Ford tractors can be turned out in time to assist much in the 1918 crop.

Fremont Show

The great tractor show at Fremont, Neb., suffered because of heavy rains and wind. Nevertheless, 90 tractors, pulling 296 bottoms, plowed all one day; 25 other power outfits were on the grounds.

Strike Due to Crickets

A strange strike, for a strange reason, is in progress among the threshing crews in the river bottom land north of St. Louis, U.S.A., and to some extent is holding up the gathering of the wheat crop. Crickets are the cause. They have invaded the stubble fields, and cutting of wheat bands by the insects is causing the trouble. Binder twine is treated with oil, and this attracts the crickets, which eat the twine. When pitchers attempt to load wagons the bundles fall apart, and the threshers claim they cannot make wages handling loose and broken bundles, and asked for day wages. They were offered $3 a day and expenses, but refused.

Motor Trucks on Big Farms

The Morgan Memorial farms near Springfield, Mass., which are reclaiming abandoned farms and helping to settle farmers on 100-acre tracts, are providing for motor trucks to be used by the community to get their produce to market.

Buy By Mail

Motor Robes
Driving Rugs
Motor Rugs

We deliver anywhere in Canada free of charge

PRICES	SIZES	DESCRIPTION
$ 5.00	48 x 60	Plush Rug, dark pattern.
$ 7.50	52 x 70	Single Plush Robe, dark green or grey.
$10.00	56 x 68	Extra quality Woollen Scotch Plaids, with fringe.
$11.50	54 x 66	Double Plush Robe, Navy Blue Face, or Dark Grey Face, with Black back.
$15.00	60 x 72	Extra heavy 2-ply double warp Plush, made in three patterns, assorted designs.
$15.00	60 x 72	Extra heavy 2-ply double warp Plush, in Dark Brown shaded effect.
$20.00	54 x 72	Extra fine quality Plush Rug with wavy Mohair Plush Face, plain Pearl or plain Brown, with Black Plush back.
$20.00	54 x 66	Rubber-lined Heavy Plush Robe, waterproof, wind-proof, made of 2-ply Robe Plush of good quality with double scalloped felt border in either mink or sealskin effect on plush.
$20.00	54 x 62	Black Fur Robes, plush lined.
$25.00	54 x 72	Black Fur Robes, plush lined.
$25.00	54 x 62	Brown Bear Fur Robes, plush lined.
$30.00	54 x 72	Brown Bear Fur Robes, plush lined.
WATERPROOF GOODS		
$ 1.75	48 x 60	Unlined Square Rubber Rugs.
$ 3.75	48 x 60	Blue Kersey lined Square Rubber Rugs.
$ 5.00	48 x 72	Blue Kersey lined Motor Rugs.
RUBBER COATS		
$ 5.00	No. 49	Short Coat.
$ 7.50	No. 53	Full Length Coat.
$ 6.75	No. 20	Oiled Yellow Stormproof Coat.

We also handle Rubber Auto Rugs, Seat Covers, Radiator Covers, Tire Covers, Vulcanizers, Searchlights, Batteries, etc. WRITE FOR PRICES.

Established over 50 years.

Samuel Trees & Co., Ltd.
42 Wellington St. East, Toronto, Can.

Learning to Drive Your Car

Some of the Experiences a Beginner is Likely to Encounter in His First Time at the Wheel

THE simplicity of it exceeds even all that the agent had led you to expect, says Dean in *Rural New-Yorker*. You find that there are only three dials, four push buttons, three foot pedals, four hand levers and a steering wheel to keep your eyes, hands and feet upon while trying to keep off your neighbor's front lawn, and out of the potato patch that he planted to feed the Allies. To further simplify these controls, the manufacturers have cunningly devised that one of the most used levers, when it will move at all, will move in any one of four different directions. What this lever may operate is concealed beneath the floor boards, but, when moved in the right direction at the wrong time, or in the wrong direction at the right time, it brings forth a roar that starts the sweat upon your forehead and makes your wife demand to be let out immediately. There is no danger, however, to anything but your pocket book, and, as that had to be chloroformed before you bought your car, it doesn't suffer.

It is really best when taking your first lesson or two to go out alone. You learned what all the different levers were for when riding with your friends, so don't need advice or verbal instruction. What you need is confidence; confidence in yourself and in the insurance company that wrote the policy tucked away in the bureau drawer at home. You must not be unnerved by the tears in your wife's eyes or the unconcealed anxiety in her voice as she bids you "Do be careful." Family ties must for the moment be forgotten and your whole mind bent upon mastering the intricacies of the machine before you. Motoring may be as simple as walking, as the agent said, but you remember that it took you quite a spell to learn to do the latter.

There is no use in trying to find a secluded road on which to make your first attempt. You'll find everybody going to town on that day and all schools let out for noonin'. The only thing to do is to seat yourself firmly behind the wheel and keep swallowing your heart until it learns to stay down of itself. You will observe for the first time what a tremendously big thing a motor car is. You had always thought of them as being a little larger than a lumber wagon; now you feel as though sitting astride the ridge pole of the hay barn grasping the weather vane.

If equipped with a self-starter, as of course your car is, you remember that the way to start the engine is to press your toe upon the button in the footboard; but, somehow, you aren't quite ready to start yet, so you get out and walk around to where the horse ought to be and try to figure out why the thing looks so different, some way. When the agent was showing it to you, it appeared as docile as a lamb. Now it looks awfully black, awfully big, and scowls at you, as if daring you to touch it. It seems to have its legs gathered under it ready for a spring the moment you touch a button, and you know that it is a blind, conscienceless brute when once it gets under way.

But you realize that there is a good deal of nervousness in this feeling and you again take your seat, put your foot resolutely upon the starter button, shut your eyes, say your prayers and press down hard. An awful roar smites your ears and you feel as if projected forward at 60 miles an hour. That is only a delusion of the senses, however, for when you open your eyes, you discover that the car is standing still, though shaking with the madly pounding engine, and that the little needle on the electric indicator is wagging back and forth like a lamb's tail at meal time. You then note that you have neglected to partly close the throttle, release the clutch and throw in the gear shift. You knew that these things were to be done, but they didn't occur to you at the moment. Now you do them in proper succession, and, as the clutch comes back with a jerk, instead of with the smooth, easy motion spoken of in the instruction book, your car leaps ahead and you are off.

DITCH COMES TOWARDS YOU.

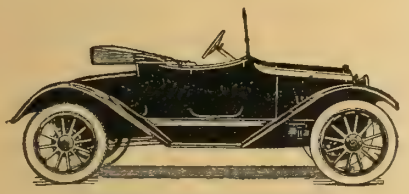
You don't dare take your eyes from the road to look at the speedometer, but you are sure that you are going 40 miles an hour and you would like to stop. A ditch is coming toward you at incredible speed and, just beyond, another car is approaching, driven by a grinning idiot, who don't seem to know that you are taking your first lesson and need the whole road. You don't dare touch any of the levers for fear of getting the wrong one and increasing your already dizzy speed, and you can't think for the life of you which one stops the engine. You set your teeth for the crash that you see inevitably coming when there flashes through your mind that blessed injunction given you by one who has been through the mill: "When you don't know what to do, shove out both feet." You shove as though trying to drive your feet through the dash board and the car quickly slows up and comes to a stop. The grinning idiot flashes by and you look around to find that you have come barely a quarter mile, instead of several, and you further discover that you haven't shifted your gears out of "low" and couldn't have exceeded eight miles an hour at the most.

Then you are glad that you are alone; you want a little time to compose your nerves and you don't care to talk. By and by, if you can back the car around, you will run it home and tell your wife that you knew that it wouldn't take long for one with your natural mechanical genius to learn to run a car.

Threshing methods in Canada are undergoing a change. Help is scarce. Neighbors hate to leave their own work when the machine comes into the neighborhood as it often means a week's work for hands. The individual machine, owned by a few farmers, will come in faster, as tractors and electric motors grow thicker Many threshers in Old Ontario are charging $20 a day this year.

The New CHEVROLET Series

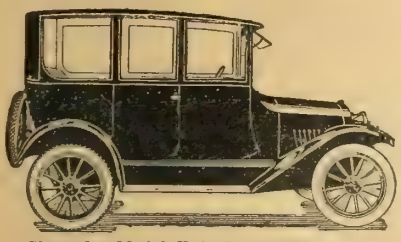
The Product of Experience



Chevrolet 490 "A" Roadster.

Chevrolet Model F. "Baby Grand" Five Passenger Touring Car.

Chevrolet Model F-a/2 "Royal Mail" Roadster.



Chevrolet Model F-A Convertible Sedan.

Power enough and to spare has made the Chevrolet Valve-in-head motor famous in all parts of Canada.

The phenomenal performance on Canadian highways has won for the Chevrolet FIRST PLACE in the minds of motorists who know motor car values.

So efficient have Chevrolet cars proven that our present production of the Chevrolet model "Four-ninety A" of over 70 cars a day is inadequate to fill the demand.

Other larger models are being produced for men who want Chevrolet performance in a larger car.

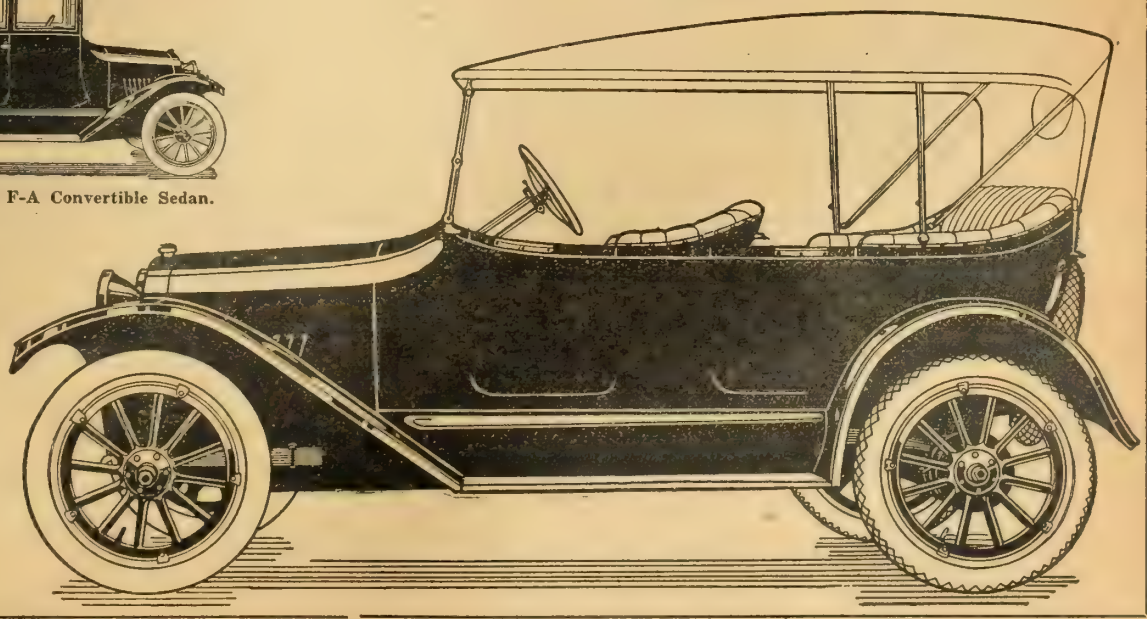
A complete line of ten models includes a car for every class of buyer.

Get at the facts before buying your new car.

Chevrolet Four-Ninety A

$750

f. o. b. Oshawa



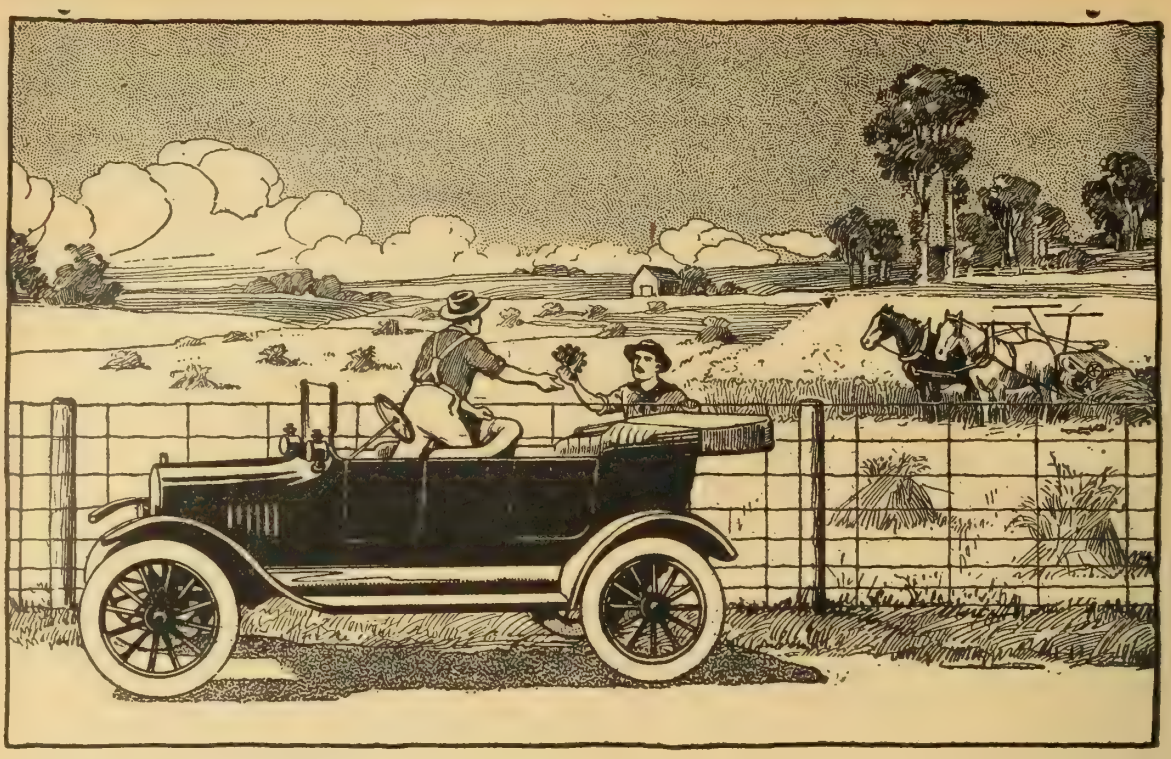
Send for New Catalogue

Chevrolet Motor Co. of Canada, Limited

Oshawa, Ontario

Western Parts and Service Branches:
Regina and Calgary

DEALERS EVERYWHERE



Real Daylight Saving

In the harvest time every hour between daylight and dark is worth money to the busy farmer.

You get an early start in the morning intending to do a big day's work, but the binder, mower or other implement breaks down and you must go to town for repairs. If you have a Ford you are soon away and its speed clips two hours off the former three-hour journey there and back

Count up the extra half days that a Ford will save you

during the rush of seeding, haying and harvest. You will find that the Ford will save you a week or more of valuable time on your necessary trips alone.

Many times you will want to take some produce along with you. Then your staunch Ford is ready to carry a load of 1000 pounds. How handy this would be! Once you own a Ford and find out the many ways you can use it for business and pleasure you will wonder how you managed without it.

The Ford is an economical investment, and a necessity on every farm

Ford

Touring - - $495
Runabout - $475
F. O. B. FORD, ONT.

Ford Motor Company of Canada, Limited

FORD - - ONTARIO

Care of the Auto

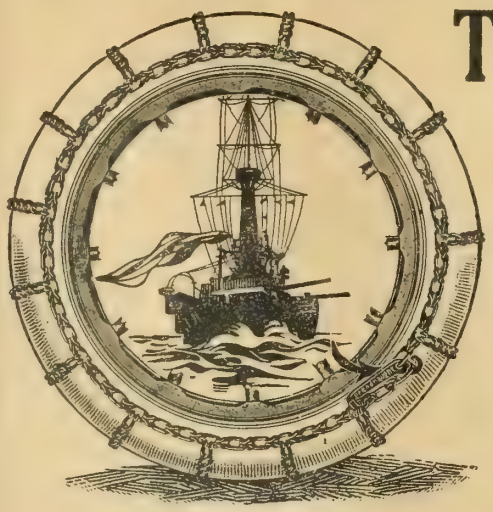
The following experience of a dairy farmer, as given in *Hoard's*, will be worth reading by every farmer. He says: "I have owned and used a touring car for two years, the machine with complete equipment costing me $1,080, and I consider it one of the best investments I have ever made. It affords my family and myself more pleasure than anything else we have or have ever had on the farm, and it creates a big saving in time and labor, too, for we have a trailer which we use in hauling milk, cream, calves, pigs, vegetables, etc., to market.

"I have given the car the best of care and, although it has been used a great deal, it now looks better than many I see which have been in use only a few months. I examine it before each trip to see that all bolts, nuts, and connections are in place and tight. I am careful to use none but the cleanest of water in the radiator and see that the engine has plenty of oil. In filling the gasoline tank I strain the gasoline through chamois to remove water and dirt, thus preventing trouble with the carburetor later on. I always carry a half gallon of lubricating oil and a gallon of gasoline in the tool box for emergency, also a couple of good wrenches, hammer, file, pliers, screw driver, a coil of strong copper wire (both insulated and bare), a tire repair kit, pump jack, a set of extra spark plugs, a couple of extra tubes, and one casting.

"When I bought the car I took my instruction book and gave the machine careful and thorough study, learning what each part was and what it was for, and I have so far not failed in being my own garage man. I start and stop easily, carefully and gradually applying the clutch and brakes. The sudden throwing on of the brakes locks the wheels, causing them to slide and grind the surface of the tires and soon wearing out the tread. In turning corners I slow up, throw out the clutch, allowing the car to coast so as to avoid the skidding which ruins tires in a short time. I drive at a moderate speed, 10 to 25 miles per hour. I consider ten miles at forty miles an hour does more harm to an auto than 100 miles at twenty miles per hour. I keep a good lookout for sharp stones and avoid them as much as possible, going over bad places slowly. I examine the tires every few days for cuts and bruises that let sand and moisture through the rubber tread to the fabric of the tire, which, if permitted, soon rots the tire and causes a blow-out. I have a vulcanizer which costs $1.80 and vulcanize the bad spots on the tires. I also have a tire gauge and test the tires once a week.

I do my own valve grinding, doing this every forty or fifty days, depending on the amount of running the car does. I coat the edge of the valve head with valve grinding paste, which I buy in tubes, and turn back and forth with a short motion till the edge of the part and the valve show bright all the way around. While doing this I repeatedly shift the valve around so as to grind evenly. I am careful not to get any of the paste in the cylinders, as it would injure them. Only one make of lubricating oil is used on my car, and this is of the best grade. I once changed to a different brand of oil, as I could buy it a little cheaper than the other, but soon found that the motor was not running as well as formerly. The best insurance of freedom from trouble is proper lubrication of the entire machine. Lubrication

DREADNAUGHT Tire Chains



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Good Roads the Cheapest Way

While Leading Roads Should be Built for Through Auto Traffic, Our Township Roads Can be Improved

WHEN we Canadians speak of good roads we think of the costly macadam or concrete highways that are being constructed in all the provinces of the Dominion. These are the roads that interest the auto owners, particularly the city auto owners, and as this class of the community have the faculty of making their opinions heard, we are apt to forget that for every mile of permanent roadway now built there are many miles of "just roads," that stand in need of improvement. The folks who live along the back concessions pay taxes like all the rest of us and the roads over which they must travel to market, school or church should receive attention.

Obviously all these roads cannot be macadamized. They may be gravelled where gravel is abundant. But thousands of miles of our rural highways will be just dirt roads for many years to come and as such we must make the best of them. Many farmers are already solving the problem for themselves and they are getting good roads the cheapest way by the use of the King road drag. An instance or two of such successful road work may be of interest.

A few years ago I was in Oxford Co., Ont. There I found two farmers who have taken hold of the clay road lying adjacent to their farms. This road had the regulation number of pitch holes and the usual depth of ruts. For a few weeks in spring and fall it was well nigh impassable. Occasionally the council got busy and rounded it up with a grader; good work but not lasting in its effects. It was after one of these periodical gradings that one of these farmers decided to keep the road in as good or better condition than the grader left it.

This man had been reading about the King road drag. Accordingly he built one on the barn floor during the winter and used it on the lane leading to his house just as the spring opened. The results seemed so good that he turned out on to the highway and took a couple of turns up and down the road in front of his farm, smoothing out the bumps and filling in the hollows. After the second rain he was equally prompt. The neighbors, of course, had been watching him. Already several saw a difference in the road; not much, but enough to be appreciable. About a week later when he was taking a third turn with his drag and was just ready to make the last round and pull for home, his next door neighbor met him with his team and asked for the loan of the drag. After that it became the regular thing for both farmers to use that drag on the road directly fronting their property. The farmers living on the other side of the road were renters and could not be induced to do their share of the work, although they benefited equally with their land-owning neighbors. Perhaps they feared, as is often the case, that better roads would mean higher rents.

All through the fall the dragging continued. Some were inclined to smile at the apparently crude implement. They said it just scratched the surface. They couldn't see that it would do any good. But they could not help but see, as time went on, that the road was improving, and admitted that if the work of the drag seemed unimportant, nevertheless it must work on the right principle. The smooth, hard roadway proved that.

SOME FARMERS ARE TOO PROUD TO HAVE POOR ROADS.

It required a little work on the part of these two busy farmers to keep the drag going, and some community pride and unselfishness enough to use their teams without direct monetary reward. But the indirect rewards have been sufficient to repay them many times over. The good road, comparatively speaking, that skirts their property is a continual source of satisfaction to themselves. Neighbors have not been backward in expressing their appreciation of that half mile of smooth going. Perhaps the greatest reward of all is that others have been

The main buildings on the Vineland Experimental Farm, where some real work is being pushed forward in fruit and vine experiments.

noticed to go and do likewise. These men are community builders.

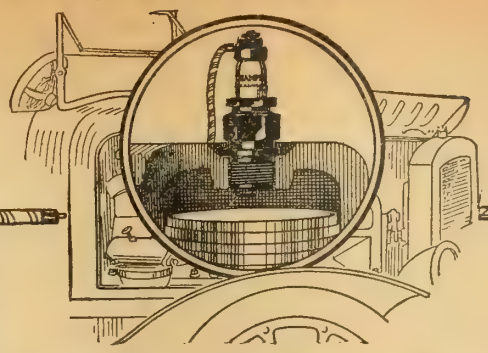
I don't know how far the good work of these two men has extended in Oxford county. It is some years since I last travelled that half mile of dragged road and I have not been back since. The most notable results of road dragging that I have observed since were in the Beauharnois district of Quebec. In that splendid agricultural district they have as unpromising conditions for road building as one could very well imagine. The black soil that covers a large part of that country makes the poorest roadway out of doors. There the road drag is widely used and few sections with the same character of soil can claim as good earth roads. I drove over several miles of them one spring following a week of heavy rains, in fact, we drove in the rain, and the roads made fairly good going. My companion, R. R. Ness, well known as an Ayrshire breeder and exhibitor, proved to be a most enthusiastic advocate of the King road drag.

HOW THE DRAG WORKS.

I might speak of many other instances of successful road dragging, but the two that I have mentioned, situated far apart as they are, serve to prove the value of this system of making passable roads out of the poorest of material. Here is the principle on which the drag works. The rain water that injures a road is not the rain that falls on it, but the water that remains on it. When water lies in puddles and fills the ruts, the earth is softened, perhaps for several inches and passing traffic cuts the ruts deeper. Finally, the water gets through to the foundations of the road and the whole becomes a "sea of mud." All of us who live in rural Canada are acquainted with this condition. The trouble starts when water is allowed to remain on the surface of the road. The work of the split-log drag is to scrape the surface smooth at the same time, keeping the road nicely rounded. There is then no place for water to lodge. I once heard an institute lecurer compare a dragged road to a hog wallow turned upside down. The illustration is correct. The hog wallow becomes impervious to moisture and holds it out. With constant dragging when necessary and attention to draining away the water from the ditches at the side, even a clay road may be kept fairly passable in spring and fall.

Road drainage is worthy of more than passing attention. Without it the good work of the drag will be almost neutralized. Tile drains on either side of the roadway are just as useful to the road as they are to the crops in the fields adjoining. If a little gravel is available, but not sufficient to cover the road surface, I know of no better way in which it can be used than in filling the trench in which the tiles are laid. This gravel will hasten the removal of surface water. If water is allowed to lie in the ditches until removed by evaporation the foundations of the road are in danger.

The maintenance of roads is a government function and taxpayers are loathe to give their time gratis on road work. But such a simple operation as road dragging is easier to do the work ourselves than to wait for red tape to unwind. Farmers who do such work, however, should have an allowance made on their road tax equal to the labor expended and in some cases this has been done; in Peel Co., Ont., I believe it is the rule.



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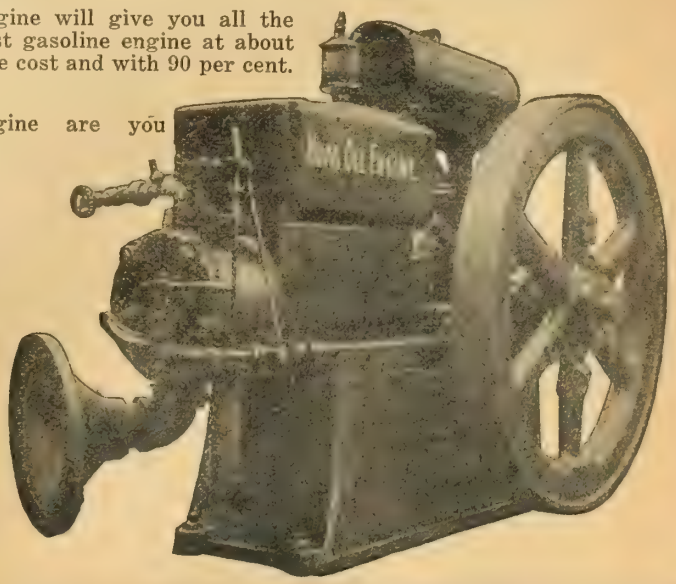

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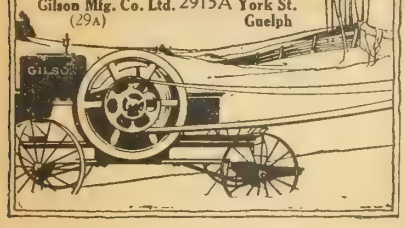

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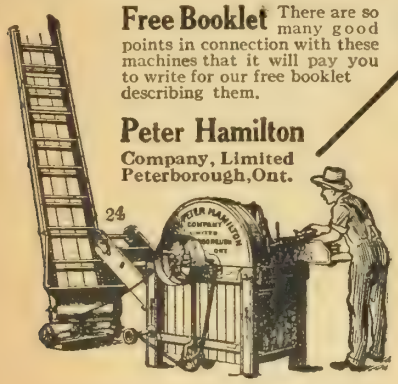

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Internal Combustion Engines

The Gasoline Engine is the Great Labor-Saver on Large as Well as Small Farms

This man hitched up a small engine to his barrel sprayer.

ALL farms do not need the gas tractor; but the every-day humble tasks must be performed on the small farm as well as on the large one. As the gasoline or kerosene engine may be obtained in any size from a quarter horsepower up, it is evident that there is no work requiring power for which it is not fitted. Most of the labor-saving implements and machinery of the farmer are intended for field use. The gasoline engine is the notable exception. It can be used by the women of the household as well as the men. It will run a washing machine or turn a wringer. It will pump water from the well, do the churning, run the cream separator. By the aid of simple attachments it can be made to sweep the floor, remove the dust from the carpets and hangings, wash the windows, even lighten the drudgery of washing dishes. Its use in the automobile brings the farmer closer to his market and provides a source of recreation that cannot be surpassed. It not only makes the farm tasks lighter, but makes the farm home more livable and provides many of the comforts, such as running water and electric light, that are usually associated only with city residences.

THE TWO TYPES.

The important point in selecting an internal combustion engine for farm use is the character of the work that it is expected to do. Gasoline engines for stationary work may be obtained in two types, that using vertical cylinders and that in which the cylinder is horizontally disposed. A horizontal engine occupies more floor space than a vertical one and is not so well adapted for high-speed work—the vibration introduced by the moving parts is more noticeable when they reciprocate in a horizontal plane. Because of its broader base, however, it is firmer under a heavy belt pull than the vertical type, and is, therefore, preferable when used in sizes above six horsepower. For the smaller engines intended to be easily portable, such as are needed for doing odd jobs around house and barn, the upright design has the advantage of lighter weight for a given capacity. On small farms, every requirement may be met with such an engine, of relatively low price. One delivering about 1½ horsepower is extremely economical, running at full load on about a quart of gasoline per hour.

For large farms two or more engines are necessary, one of sufficient power to do the heavy work of threshing, baling, wood sawing, etc., and a small engine for performing the lighter tasks enumerated above. Under such circumstances the small engine may well be of vertical type, and the only decision of moment which the purchaser has to make is that with regard to the cooling system. The simplest form is the engine provided with the air-cooling flanges. This is seldom built larger than three or four horsepower, because of difficulties which begin to be serious when the cylinder bore exceeds four inches. The hopper type, in which a combined water container and cooling jacket surrounds the cylinder, is very satisfactory for engines of moderate power. It is not quite so simple, because the hopper must be kept filled. The alternative is the forced circulation type, in which the cooling fluid is driven through a pipe system by a pump operated by the engine itself. Here, one filling of the fuel container, oiler and water tank usually suffices for an extended period of operation.

HOW GOVERNED

Nearly all farm engines use gasoline for fuel and are of the governed type. That is to say, an engine-driven centrifugal governor prevents overspeeding and makes for a uniform number of revolutions per unit of time, no matter what the load. This is accomplished by interrupting the ignition, tripping an exhaust valve, or throttling down the gas supply when the crankshaft speed begins to exceed a certain predetermined figure. A governed engine is necessary under a fluctuating load, otherwise the engine would speed up unduly when running under light loads.

Small engines may be easily installed on simple wheel-stands so that they can be readily moved from place to place. A two-wheel hand truck is satisfactory for handling the small 1½ horsepower air-cooled engine. Heavier engines call for a four-wheel truck, with a tongue for steering. One man can easily handle a three horsepower engine on a truck of this sort. The heavier engines may also be supported by wheel trucks, but in most cases these must be horse-drawn. Outfits have been contrived in which the engine is made self-propelling by the addition of a clutch and chain or gear connection with the rear wheels.

THE POWER LOAD.

The power required for various tasks varies widely. Most of the work around the house, in the dairy, or in the farm workshop, can be done by a two horsepower engine. Such an engine will pump water in moderate quantities, furnish power for washing machine and wringer, operate the churn and separator, run a vacuum cleaning outfit, a lathe, drill-press, grindstone, emery wheel or small rip or cross-cut saw, supply running water, and spray trees. In connection with a suitable storage battery and dyna-

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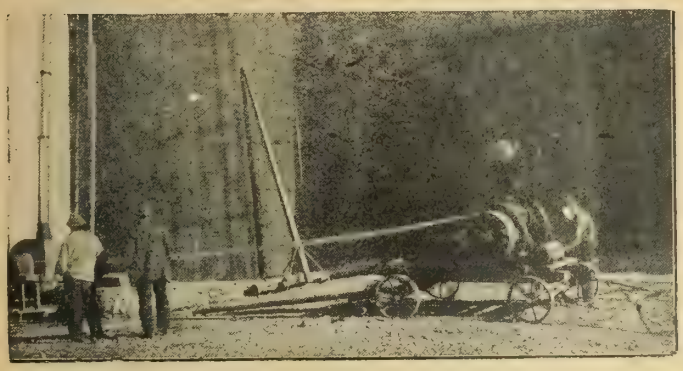

Lister Individual Power Outfits are overcoming labor problems on large and small farms alike. No amount of work is too great for them to do thoroughly, and no amount is too small to be done economically. No matter what size your farm may be, Lister Power Outfits will prove very profitable to you.

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mo it will furnish enough electric energy to light all the farm buildings. A three to five horse power engine will be all that is needed for heavy wood-sawing, grinding feed, running a large stalk-cutter, elevating hay and grain, and pumping enough water for all the livestock of a large farm. Eight or ten horsepower will do practically all the heavy work that an engine can do on the farm.

Of course, a large engine can be used to do a big variety of work if it is belted to a line shaft and the lighter machines grouped in such a way that they may be run off the common source of power.

Where natural gas is available, the fuel problem is a simple one. Most farmers, however, have to depend upon liquid fuels, such as gasoline and kerosene. The former is more costly, but where small and medium engines are operated on odd jobs it is best, because it permits instant starting and better control of engine speed. On large engines used only for long runs a kerosene burner is a good investment, as it will insure proper engine operation on the cheaper fuel. The alcohol engine may well be the farm power of the future, but little has been done toward its development in this country.

Practically all farm engines are of the four-cycle type and the simple one or two-cylinder forms. The fuel vaporizers are simple in design, and in many horizontal engines the space in the base is utilized for fuel storage. Battery ignition is generally favored in small outfits, because of its cheapness and simplicity. On large engines, a low tension magneto with make-and-break spark is considered more suitable. The manufacture of farm engines is an important industry and as the production is large the prices are reasonable. There is really no excuse for the farmer who does not avail himself of the advantages of modern farm power.—*Scientific American.*

Gas Engines for the Farm

ON A dairy farm the following machinery may be driven with a gasoline engine, says C. K. Shedd, of Iowa College of Agriculture:

Machine.	Approximate horse-power required
Cream separator	⅛ to ¼
Churn	⅛ to ¼
Washing machine	⅛
Grindstone	⅛
Well pump	½
Generator for electric light	1 to 2
Grain elevator	2 to 4
Feed grinder	2 to 6
Feed cutter	2 to 6
Wood saw	2 to 6

Many farms do not have all of the machines listed above and some farms have machines not here mentioned; but this list will serve as a basis for discussion. On a great many farms water is pumped with a windmill. This is a good practice since wind is cheaper than gasoline. It is an advantage, however, to be able to belt up and pump water with the engine in calm weather. This is especially true if the water is pumped into an elevated or storage tank.

TYPE OF ENGINE FOR ELECTRIC DYNAMO

The electric light outfit is not found on the average farm at the present time; but this form of light is certain to come into more general use.

Some type of farm electric lighting plants require no special type of engine. In general, however, an engine having a throttling governor is preferable for this service since it gives a more uniform speed than does the hit or miss governed engine.

Referring to the table given above, it will be noticed that each of the first five machines mentioned requires less than one horsepower. If an electric plant is used, it is possible on many farms to arrange these small machines so that they can all be driven from the engine which drives the light plant.

THE PORTABLE ENGINE DESIRABLE

Of the larger belt-driven machines, probably the feed grinder is used more than any other on most stock farms. It is not generally convenient, however, to locate the other machines requiring a similar amount of power near the feed grinder. In the writer's judgment, it is advisable to purchase a portable engine of from four to six horsepower for these larger machines.

There is another use for the gasoline engine which is important on some farms. In wet harvest seasons on flat lands the ground is likely to be so wet that the grain binder wheel will slip and fail to give the machine the proper motion. To overcome this difficulty an engine may be mounted on the binder frame and connected to drive the mechanism, using horses only to move the machine along. The writer has seen a heavy crop of grain harvested in this manner on ground so wet that it would have been impossible to use a grain binder in the ordinary manner. An engine suitable for this service is of light weight, rather high speed, and carefully balanced so as to reduce vibration. Four horsepower is large enough.

SELECTING AN ENGINE.

Many purchasers make a mistake in selecting too cheap an engine. A few dollars saved by using crude construction in small details such as ignitors, ignitor trip rods, and carburetor may prove to be the cause of unsatisfactory engine operation when these parts become slightly worn. It is much more satisfactory in the end to buy a well-made engine; then put it under a good roof and take care of it.

Simplicity of construction is a thing always to be desired because it should reduce both original cost and repairs, and should make the engine more easily understood. The make-and-break ignition system is somewhat simpler than the jump spark system. For single cylinder engines running at speeds under 500 r.p.m. it is possible to get satisfactory ignition with a make-and-break system, and therefore this type of ignition should be selected. For high speed, and especially multiple cylinder engines, the jump spark system is more satisfactory because it gives a more accurate timing of the spark. All automobile engines use the jump spark system.

The fuel used in most engines under six horsepower is gasoline. Some engines of this size will burn kerosene. When the engine is to be run for several hours at a time there is some saving by using kerosene, although this is not a very big item for a small engine. When the engine is used mostly for short runs, gasoline is preferable.

The size of engine to select is one that will do the work ordinarily required and have reserve power of perhaps 30%. This keeps the engine working easily and prevents rapid wear. The reserve power may be useful occasionally. It is a mistake to get too large an engine. A six-horse engine pulling a one-horse load may be expected to use about one-third more fuel than a 1½-horse engine pulling a one-horse load. Since the cost of the engine also increases with size, it is better to select the size very near the load to be carried.

The Monteith Demonstration Farm, where soldiers are being helped to master the details of farming.

Use Plenty of Oil

If there is one place where penny-pinching is not a virtue it is in buying lubricating oil for expensive farm machinery. It is a general failing of those not thoroughly accustomed to the use of machinery that they do not take proper care of the costly implements they purchase, and this failing is often illustrated in the buying of lubricating oil.

If the same wagon, motor car, tractor or farm implement can be made to give serivce for six years instead of three, it can be figured its original cost has been cut in half. The one detail of proper oiling, more than any other, spells the difference between three and six-year service.

There are a number of high-grade lubricating oils on the market. They cost more than ordinary oils, but their freedom from residues that cause friction and

wear makes them worth much more than the difference in cost. Some think that "oil is oil" and that is all there is to it. But there is the same difference between two oils that there is between creek water and spring water.

Tractor Versus Horse

Mr. Membery, of Prince Edward, has kept some very close figures on the cost of tractor work as against horse power, and continuing along these lines he said: "Any plowing that I have done either by the day or by the acre, with man and horse has cost me $1.75 per acre.

"My tractor will plow, with two 12-inch bottom plows, 5 acres per day and the tractor will consume 7 gallons of gasoline at 31 cents per gallon, or $2.17 and one-half gallon of oil at 22 cents, which makes a total of $2.39. A man at $1.50 per day brings the total to $3.89 for 5 acres, or about 78 to 80 cents per acre.

"This, of course, does not include interest on capital, which would come to about 12 cents per day and depreciation on cost about 13 cents more, a total of 25 cents per day.

"Taking the number of days the tractor can be used in a year would vary the figures, as, while it was not being used for work on the soil, it would be employed in threshing, grinding feed, cutting feed and wood, and other work pretty much the whole of the year.

"This question is one that the bulk of farmers cannot get at to a very fine point, and is one more of calculation than any other about the tractor. However, the proof of the quality of the pudding is in the eating, and anyone who would like to be convinced of the practicability of the outfit that I have had better come and see it at work."

Threshing Too Fast

One cause for considerable of the loss in threshing is the high speed with which many operators insist on running their separators. This is against clean separation. Even though it might be necessary to pay more in order that threshing outfits may make the same wage running at reduced speed, it should be done to secure the maximum of grain at a time when it is so badly needed. The increased grain should more than pay the increased cost.

Big Tractor Day for Ontario

The Third Annual Tractor Farming Demonstration will be held September 18-21 on the Toronto Industrial Farm, which is located about 12 miles north of Toronto on Yonge Street. The 1917 demonstration will receive the patronage of His Worship the Mayor of Toronto, and the support of the Toronto City officials and Government officials who have to do with the Industrial Farm.

The demonstration will be conducted under the same management which had charge of the First Tractor Demonstration at Guelph in 1915, and the Second Tractor Demonstration at Whitby in 1916, and gives promise to be by far the greatest Exhibition of Farm Tractors and Power Machinery ever witnessed in Canada.

Blame Only Yourself for Touchy Corns

BLUE-JAY may be bought at any drug store. This means relief is near, if you want it. Painful corns succumb to these inexpensive, wonderful little plasters. Millions of people have mastered corns this way. The treatment is quick and gentle. The first application ends most corns after 48 hours. The stubborn few vanish with the second or third treatment.

Pared corns keep coming back. Harsh liquids are dangerous. Blue-jay treatment alone is permanent.

Prove tonight that every corn is needless. Get Blue-jay at your drug store. Relief is instant. In 48 hours your corn is gone forever. Try this certain way *once*—tonight!

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For Better Butter use Windsor Dairy Salt
Made in Canada
THE CANADIAN SALT CO. LIMITED

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The CONNOR Ball-Bearing WASHER

not only saves your time, it saves the clothes from the harsh wash board treatment. Gives much better results, with lighter work than when done in the old fashioned way.
Send for your booklet on this machine by first mail.

J. H. CONNOR & SON, Limited
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The MacLean Publishing Company, Limited, 143-153 University Ave., Toronto, Ont

Home Grinding Certainly Pays *with the* New "Toronto" Grinder

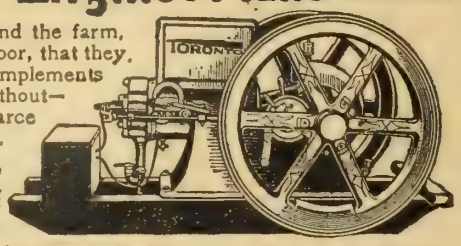
Our new "TORONTO Special" makes home grinding as simple and practical as running the fanning mill or pulping roots. Special "crackers" inside the grinding plates make it possible to grind the meal much finer, without extra power. All unnecessary parts have been eliminated, and vibration greatly reduced.

Write for Booklet describing this and other TORONTO Grinders. 20

"TORONTO" Engines Make Good

at so many different jobs around the farm, and save so much time and labor, that they have earned a place among the implements a farmer cannot afford to be without—especially in these days of scarce help and high-priced produce.

TORONTO Engines are made in five sizes, to run on gasoline, kerosene or natural gas. 12



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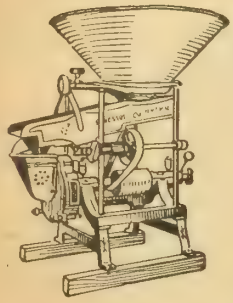

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Six fans instead of four increase blowing power. Silage flows without clogging through small pipe, in fine, steady stream—not in bunches.

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Agency Division

THE MACLEAN PUBLISHING COMPANY, LIMITED
143-153 University Avenue, TORONTO, ONT.

FALL PLANNING IN GREATER ONTARIO.

Continued from page 18.

of the dark pages in the history of development in Southern Ontario is the story of the work of destruction carried on by the pioneers. Dire necessity demanded that they grow crops that would net a speedy turnover, therefore they tilled the land and robbed it of its fertility by giving nothing back, and subsequent generations had to toil the harder to rehabilitate the soil.

READY CASH AT HAND

This condition of affairs need not necessarily characterize development in the clay belt. The wonderful productivity of the soil can be perpetuated by taking advantage of the opportunities afforded the settlers, which were not afforded those who pioneered in older districts. The present-day settlers have markets at hand, and speedy systems of transportation. They also have pulpmills which will take the cordwood and pulpwood they chose to cut. The Government is providing ways and means of placing stock on the land, and marketing their dairy produce at cost, and thereby providing means of obtaining the desired cash month by month through the co-operative sales system devised for the north.

During the past year several carloads of cattle have been shipped into the district between New Liskeard and Monteith. A co-operative dairy has been erected at New Liskeard where butter will be manufactured, and the many markets between North Bay and Cochrane supplied with butter and cream. This has proven an inducement to farmers to take up stock raising, as a means of providing ready cash to carry on the farm work. One man has purchased 40 head of cattle for this purpose. Many of the farmers are buying cattle in twos and threes, and by so doing will reach independence by a short-cut route, and provide the all-necessary fertilizer for the soil. In short, the developments towards stock raising in Greater Ontario that have taken place during the past summer, demand that the fall planning of all settlers shall take such shape as to provide for a greater degree of mixed farming during the coming season.

WHAT ABOUT FEED?

The question will be asked: "What shall we do without corn?" That question has already been answered. Ensilage can be produced in abundance. Peas, oats and vetches make better ensilage than corn, and these grow in abundance. The cattle thrive and wax fat and healthy on this food. This ensilage is recommended by all Government experts. What has proved a success in Nova Scotia, and easily proved a better sucecss in Greater Ontario heretofore, can be continued in use by all farmers. In the summer there is a virtual glut of pasturage. Clover, alsike, and timothy grow in abundance. Seldom have I seen healthier cattle than I saw in this district during a recent tour through the country. All classes of cattle thrive in this area, but Ayrshires and Shorthorns are preferable, one reason is because they are dual purpose, and the second is that they will hustle for themselves, and are vigorous and strong.

To those who prefer sheep-raising to handling cattle the suggestion is made

Continued on page 51.

The Greatest Engine Value Offered — "Z" Engine

The new "Z" Engine

Made in sizes to meet every need at prices to suit every pocket.

This little marvel of power is the one great, convincing engine value. To see it and know what it will do will be well worth the cost of time and money to

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August 25th to September 10th

This simple little engine puts the most dependable, efficient and economical power within the reach of every farmer.

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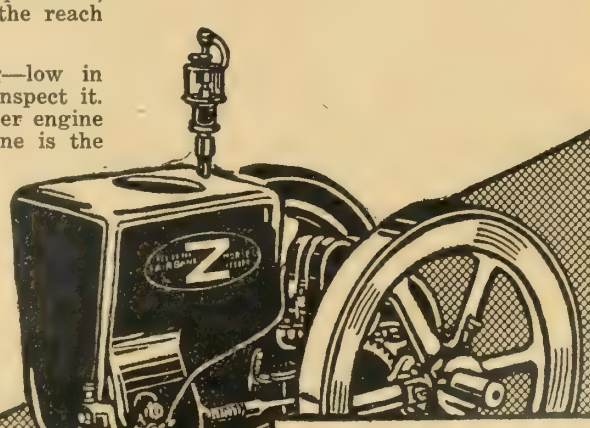


Important Dealer Service

When you buy an engine from your dealer you deal with a local representative of the manufacturers. He shares their responsibility. He stands behind the engine he sells. He's responsible to you. He's at your service to see that you are satisfied. And he's as near you as your telephone any time you want him.

The Rural Telephone: By J. SMITH CARTER

The Party Line is the Weakness of the Rural System, But Unity of Effort Can Overcome Many Troubles

IS the country being urbanized?

That question is quite in order, perhaps more so than many interrogations which find a place on the order paper of the Canadian House of Commons. In fact judging from results many of the latter are both obnoxious and disorderly.

But the urbanizing of the country seems to be a growing condition. The procession is advancing and few people would care to retard its progress. In other words, reciprocity between the urban and rural is being received with increasing favor. A few years ago we had a "reciprocity election" in Canada and a great many people have not yet recovered from its effects. Moreover, some of them never will. But reciprocity between the city and the country is quite another matter, reciprocity in ideas and ideals, means of communications, manner of speech, political outlook both local and national.

Looking backward, but a short time, the city resident had a monopoly of the telephone. To-day the rural lines reach thousands of urban homes throughout Canada, and the system is rapidly extending. The trolley line, the automobile, electric light, and the daily delivery of mail to the farmer's door, are other agencies employed. From the standpoint of economies or social betterment, the new movements are worthy but superior to all those effects, is the fact that there is being promoted an acquaintance, an intimacy, a unity of interest, a true understanding, a bond of human brotherhood between rural and urban peoples which will aid in the proper settlement of many questions that have already arisen in connection with our national household.

Can anyone invent a means of cutting out the ringing and the listening on our rural lines? These are two of the great weaknesses of a rural telephone. We can't do without phones in the farm house now. That they must improve in quality and service is to be expected, and one of the first things must be the elimination of the listener and the party rings.—Editor.

In the matter of public utilities the highway to success is co-operation. This quality should be very thoroughly developed between the telephone companies and their subscribers. In many departments, present conditions are most gratifying, but these reciprocal relations could be further enlarged to their mutual benefit. In visiting many rural sections and studying the telephone service at close range, it would appear that means should be devised whereby each subscriber can express to the company in "summary form his opinion" of the service. Undoubtedly there could easily be distributed to subscribers from each local centre an informations form something like the following:

Name of subscriber.....
Telephone number.....
When was your telephone installed?.....
In what ways have you found the service a benefit? .....
Has it been satisfactory?.....
If not, give particulars.....
Do you consider the telephone a benefit to the neighborhood as a whole?.....
Has it increased the value of your property? .....
How do you think the system could be improved? .....
Remarks .....
.....

The way cabbages are pitted near Hamilton. This market gardener finds the telephone a great help in putting these on the market at the right time. The motor truck is another improvement soon to be introduced

Any rural citizen who is sufficiently public spirited to have the telephone installed will welcome any effort toward further improvements. And perhaps not all, but a large majority of them would gladly complete the question form, and supply a two-cent plus a war stamp to carry it back to headquarters.

THE POWER OF INFORMATION.

Another means of uniting more closely buyer and seller of the pole and wire product is by means of a small publication in magazine form which could be mailed monthly or quarterly to rural subscribers. The pages thereof could contain much of interest and value, a proper medium of expression relative to telephone problems.

In some localities where the line has been damaged by storm or other causes or where an individual phone requires repairs, the company officials have been dilatory in setting matters right and have thus earned the ill will of the subscribers. Proper vigilance and systematic planning, could prevent any such dissatisfaction. Satisfied customers will do more than anything else to introduce that new line in the adjoining locality. I merely mention this in passing for the edification of the telephone companies.

LET'S PULL TOGETHER

Unity of effort, which often manifests itself in the initial stages, when the poles are supplied and put in place by the local residents, should characterize the operation and conduct of the service throughout. Once the line is established it should be the glad duty of the telephone company to make the best possible inducements for rural citizens to urbanize their business methods and social avocations. There is truly a lack of vitality in this follow-up system. The completion of the line should be but the beginning of advanced methods. Nevertheless, the utility in its earlier years, has done much to make city and country more identical. No more are the terms, rural and rustic synonymous.

In the suggested "urbanizing of the country" through the medium of the rural telephone and other agencies *it is not intended that urban ideals shall destroy those of the rural.* Should there be any such thought in the mind of anyone, let us merely change the phraseology to "ruralizing the city." *The ultimate goal is Canadian unity. There has existed too great a divide between the people who live along paved streets and those along the verdant highways of the country. Sectionalism has already become a dangerous element in our national life.* The common viewpoint of the rural and urban has in recent years become, to some extent, more of an actuality. Each has attributes that the other can well adopt. They have many problems in common. Let the country remain rural so far as its natural charm goes, rural in its wholesome, healthy outlook on the purposes of life, but let it become urban in its means of

communication, its more thorough acquaintance with world problems, social, political and economic.

THE LISTENING EAR.

Ever since creation, man's power as a listener has been growing apace. Of course, in this instance, man embraces woman. We can well imagine Adam and Eve listening to the primeval noises. They did their best in the absence of rural telephones. And coming down to a much later date, the descendants of our first parents were developing most acutely the listening art, when Samantha of Saratoga accused her beloved husband Josiah Allen of possessing itching ears.

Undoubtedly the party line is the weakness of the rural service and yet perhaps the interesting happenings which the telephone eaves-dropper gathers may in some measure recompense for the annoyance caused by the shrill and frequent ringing. Because, it must be remembered that if each of the twenty subscribers on a party line receives two calls in a day, a very conservative estimate, the attention of each individual household is attracted forty times. The night calls after the hour of retirement, are perhaps the most annoying. It is to be hoped that ere long a practical solution may be found which will promote the privacy of the service. Already there has been the successful demonstration of what is known as the "lockout system," but the cost has been thus far prohibitive.

While most rural folk are too occupied, or perhaps have not the inclination to develop the "listening ear," many instances are recited of a growing predilection. It is told of an elderly lady, who for some time has been an invalid, that the coming of the telephone was a physical and mental blessing. Her personal testimonial was as follows.

"I don't know what we did before we had the telephone. I used to lie here like a dead tree — nothing stirring but the pendulum of the clock ticking away my days like a sentence of death. Now, I'm alive and all full of life. The days used to seem so long. Now they don't seem long enough.'

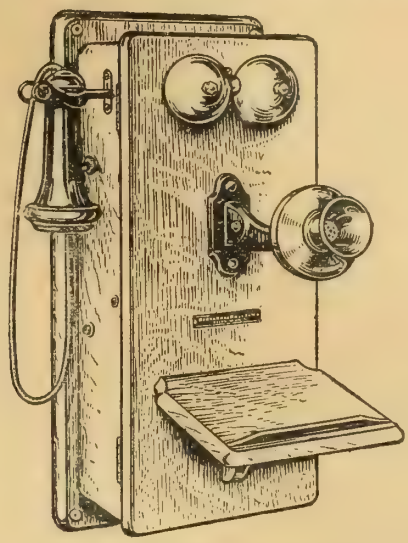
THE TELEPHONE A LIFE SAVER.

It is interesting to note how the aversion to the rural telephone line has gradually disapepared. Even the more remote and sparsely settled districts have their quota of wired poles. In sections where roads and trolley lines cannot yet be had, the telephone wends its way carrying myriad messages of rural happenings and others of world concern. In the following instance, true to fact, the telephone proved to be a real life saver. "A man had been seriously injured in a lumber camp. No practising physician was near and the injured man's doctor in a city several hundred miles distant was called up. Apprised of the nature of the injuries the physician was able to perform a rather difficult surgical operation by proxy, giving directions step by step to the patient's friends who did the actual work as prescribed. In the annals of medical history this is an outstanding achievement."

SAVING PRECIOUS HOURS.

As a practical aid in the general conduct of farm work, the telephone is a blessing. Take a concrete example. A

STROMBERG-CARLSON TELEPHONE APPARATUS



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INTERESTING BOOKLET FREE

"A Telephone on the Farm" contains 28 pages of interesting information about rural telephone systems. Illustrated by many pictures and diagrams which explain all details. Tells how to organize, build and equip an ideal telephone system. Write for your free copy to-day!

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farmer at Dundela breaks a part of the seed drill at 4.30 o'clock Tuesday afternoon. It is the busiest time of the season when every moment counts. The drill was manufactured in Toronto and the local dealer at Iroquois, nine miles distant, is short on repairs. Ten minutes after the break occurs the farmer has called up and arranged with the local dealer to telephone Toronto, giving full details of the parts required. Shipment is made by the night train, which arrives at Iroquois at a very early hour. At seven o'clock Wednesday morning Mr. Farmer telephones the rural mail driver and requests him to call at the express office at Iroquois. The much-needed repair, which is delaying the whole work of production, is delivered to the farmer at 11.30 o'clock. At one o'clock the invalided machine—the sower—is going forth to sow. Under former conditions, the delay would have been at least 24 hours more, with two or three additional drives to town thrown in for good measure.

THE DISCOVERY OF THE TELEPHONE.

The progressive Canadian farmer places a high estimate on the value of the telephone. Its presence in any neighborhood makes a worthy change in the social life of the locality, and certainly increases the value of farm property. So accustomed have we become to conversing by this rapid transit method that we are apt to forget how marvellous was its discovery. It is indeed a source of pride to Canadians that this wonderful invention is a product of Canadian brains.

Alexander Graham Bell, in the summer of 1874, at his father's house in Brantford, Ontario, worked out the great idea which was to revolutionize world methods. Experimenting with a human ear, taken from a dead man, he noted how the thin membrane of the ear vibrated, as words of varying length and intensity were spoken into it, and how it in turn moved the relatively heavy bones of the ear. The thought flashed upon him. "If a membrane so delicate can move bones so massive, why not a thicker membrane move a piece of steel." "At that moment the telephone was born," said Bell in telling the story. "That was the thought that led to it."

Of course, the world laughed at this fantastic project of speaking over a wire. Discouraging messages were numerous. Even the young inventor's prospective father-in-law told him "to stop fooling and get to work." Editorial opinion rather belittled the effort. The London *Times* alluded to the telephone as "the latest American humbug." Bell was ridiculed as an imposter and a crank. But so was Morse, whom successive Congresses regarded as a nuisance, likewise Cyrus Field, whose Atlantic cable was denounced as "a mad freak of stubborn ignorance," and Westinghouse, the inventor of the airbrake, who was called a fool for proposing to stop a railroad train with wind. But Bell persevered until after endless worries and discouragements he won the thanks and admiration of a grateful world.

RAPID RURAL GROWTH.

There are in Canada more than 1592 separate telephone organizations with sufficient wire in use to girdle the earth more than sixty times. This seems scarcely possible, yet the statement is absolutely accurate. Silently and effectively this great network has been spreading over the country. The extension into rural communities has surpassed, in rapidity, that of the urban. It must be remembered that in the latter the work was progressing many years in advance of the former, yet according to a very excellent authority, who has made a thorough study of the whole project, there are relatively fewer farmers in Canada without a telephone than there are dwellers in our cities.

Elsewhere we have emphasized the need of co-operation between companies and subscribers. Just as necessary is it that unity of action should exist between the large companies, like the Bell and the smaller rural organizations It is gratifying to learn that the situation in that regard is favorable. Too often in competitive operations the "big" fellow endeavors to crowd out the weaker brother.

PUBLIC OWNERSHIP.

Throughout the prairie provinces of Alberta, Saskatchewan and Manitoba, the telephone is a great means of comfort. It has in fact solved to some extent, the problem of relief from the appaling isolation of life on the sparsely settled plans of the West. Manitoba and Alberta by incurring a liability of about ten million dollars, have each adopted on a most comprehensive scale the principle of public ownership, while Saskatchewan with an approximate investment of five million, has taken a similar step in connection with the larger cities and towns. Apart from the government system the pastoral province of Saskatchewan has more than six hundred telephone companies in operation serving the citizens of the rural sections. These various connections run all the way between lines having three miles of wire and six or eight telephones to lines having five hundred miles of wire and a couple of hundred telephones. Through the prairie sections the cost runs as low as one hundred dollars per mile, including equipment. Altogether the Saskatchewan farmers have invested more than $2,000,000 in telephone facilities. Opinion is varied as to the new order of things in the prairie provinces. But one thing is certain, the success or failure of the scheme, will have a decided bearing on the question of public ownership which to-day is one of the most vital in Canadian politics.

In his book entitled "Government Telephones," Prof. Mavor, of Toronto University, criticizes perhaps rather severely the experiences of Manitoba. In a concluding paragraph he says:

> "The entire history of the Government telephone enterprise in Manitoba affords evidence of the most positive character against Government ownership. Practically all of the defects which have emerged elsewhere in the management of industries by State officials have made their appearance in the case of the Manitoba telephones. The management has been uneconomical, the enterprise has been handicapped by political intrigue, the finances mingled as they have been with the general finances of the Province have been unsoundly administered from the beginning, and the obligations of the public have been enormously increased without adequate compensatory advantages."

A more friendly critic to whom we are indebted for considerable information in this connection writes as follows in the columns of a Toronto daily paper: "Manitoba and Alberta (in the matter of public ownership of telephones) appear thus far to have made one hand wash the other, which is perhaps all that Government Ownership is intended to do. They made the expropriations before dead capitalization had reached the proportions which obtain perhaps unavoidably in Ontario."

ONTARIO RURAL LINES.

The development of the rural telephone business in Ontario has nearly all taken place in the last eleven years. Prior to that time there were, practically speaking, no operating telephone companies with the exception of the Bell Telephone Company. Now there are 539 companies, each ranging from ten to one thousand subscribers. The majority of these are rural or farm telephones, with a total of 84,282 subscribers. Most of these companies operate in the rural districts and have a connecting arrangement with the Bell Telephone Company whereby they obtain local and long distance service. In Quebec there are 229 companies with 23,425 subscribers.

Various methods of organization are adopted. In some instances a number of citizens who want telephone service in their homes and cannot obtain it in any other way, form a club, build the line and purchase the telephones, dividing the expense equally. Another method of procedure is by means of a stock company. The telephones are leased to the subscribers at annual rentals, ranging all the way from $8 to $15 per year. Again, there is a municipal telephone system which is operated under the Ontario Telephone Act and under which some 50 municipalities are operating their own telephone lines. By this method the municipality constructs and carries on telephone business. *Ten assessed land owners may petition the council of any local municipality praying for the establishment of a telephone system.* The council may by by-law provide, at the expense of the subscribers and subject to such conditions as may be set forth in the by-law, for the extension thereof from time to time, upon application of such persons as may desire to become subscribers. The cost of establishing and maintaining any system or extension shall be paid by the subscribers.

The subscribers' petition that the cost of the system be extended over a period of ten years and that debentures be issued to pay the cost of the work, these debentures being direct a tax on the property of each subscriber. The amount of the cost of maintaining this system and the interest is also included in these debentures. The debentures are issued on the credit of the municipality.

A PERPETUAL BENEFACTOR.

Nothing in recent years has done more to improve the position of the Canadian farmer—the gentlemen yeomen, of the twentieth century—than has the telephone. In the ordinary round of everyday work it is a great aid. Men are called for harvesting and threshing, market conditions are made known, orders go to the merchant, the grocer, the butcher, the sick ones readily secure the services of the family physician, while the social intercourse and the promotion of good fellowship goes on apace.

Scientific skill has brought to the farmer many advantages in recent years. But in the catalogue of all these the telephone in its variety of utility, its ready and constant service, occupies a favored place.

" 'Tis the leaven that leavens the whole lump."

Continued from page 46.

that they plan to follow the example set by Daniel Stewart of Earlton Junction. Dan. Stewart went into that country via Lake Temiskaming, in a bark canoe. He has tried all its many characteristics, and knows what is best. He has been successful as a business man, and as a farmer. He recently invested a small fortune in a flock of some 600 sheep. These passed into the north about a year ago, and he has not lost one through illness. The flock provided him 95 per cent. lambs, as well as a good wool clip. The contour of the land in many portions of the clay belt is admirably adapted for the raising of sheep. It is hilly and well-protected. The winters are steady, no thaws intersperse to weaken the flock, there is no wet weather, while the presence of so much lime in the soil helps to keep them from foot-rot and attendant diseases. When lots of clover and roots are at the disposal of the sheepman, what more could he expect? The dollars and cents aspects of sheep-raising are too well-known to need enlarging upon here. In the interest of cleanliness every farm needs sheep, and the farmer who has not any should plan now for a flock, be it large or small, for his farm next year.

FALL PLOWING PAYS

But getting down to general farm work. Experts, and those who know the country well, all agree that the farmer who leaves his plowing until the spring takes big chances. It is a six to one chance that the September rains will ruin his crops. Every farmer should plow in the fall, and the successful farmers do. By having his farm plowed before winter sets in, the farmer has provided himself with the facility for early seeding. Land well ridged will dry out rapidly and permit of him commencing seeding early in May, and sometimes in April. This gives his crop a chance to mature early in August, and he can have a bountiful harvest gathered in before the third week in August. Ordinarily the season is ten days behind older Ontario, and early maturing varieties must be insisted upon if a sure crop is to be expected. When the winter breaks up it passes off rapidly, there are no intermittent frosts and cold weather to delay farming.

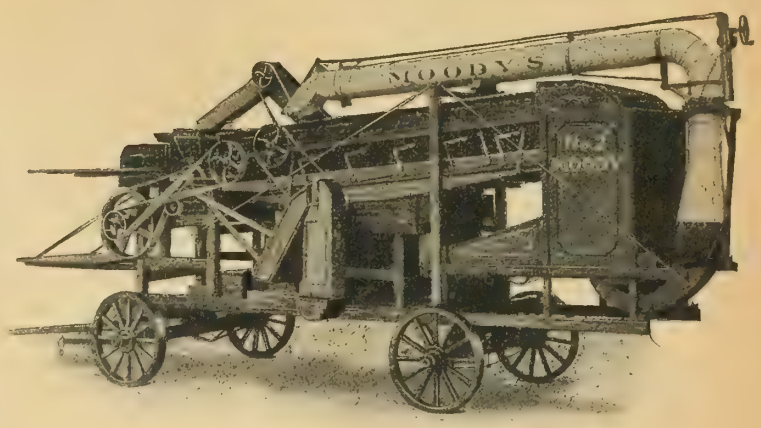
One winter task the would-be cattle raiser and dairy farmer should set forth to accomplish is the erection of his silo. This is not the pre-silo age in Greater Ontario, silos are necessary adjuncts to the farm machinery.

The farmer should decide what he will need for pasturage, and for crops, and have his plans materialized before he commences work. The mistake many farmers, some of many years' experience in Southern Ontario, make is to wait until the season opens out, and then go about their work in a haphazard manner. *Organization, efficiency, forethought, energy and enthusiasm must be the mottoes of the farmer in Greater Ontario if he would reap all that the country would provide him with.*

In the more developed districts, such as around New Liskeard, etc., the farmers should now consider the advisability of fall wheat. The snow lies deep and the ground is well covered, keeping out the frosts, so the possibilities of winter-killed wheat are minimized, but the ground must be well drained, and fixed up in every way to ensure a good crop.

Own Your Own Thresher

Get a "MOODY" and be Independent



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The wise farmer wants his own thresher—this is possible to-day. A No. 2 Moody Thresher and Blower is within the reach of the prosperous farmer. The "No. 2" can be driven with a 10 H.P. Engine, at an average running capacity of 80 bushels of oats per hour. There are small or larger Moody Machines to suit various needs—all are dependable and do perfect work—the best of their kind in Canada. Extensively used in Ontario, Quebec and the Maritime Provinces.

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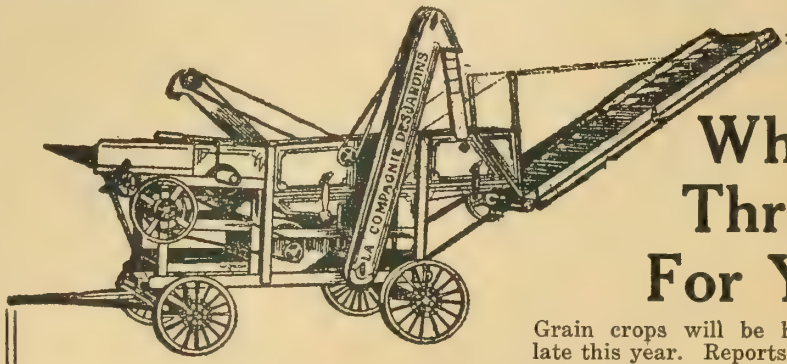

Who'll Thresh For You

Grain crops will be harvested late this year. Reports from all parts of the Dominion indicate that the unfavorable weather of May and June has set wheat back from ten to twenty days.

Do you realize what this means to you? The threshing season will necessarily be shorter than usual and you're liable to be "up against it" for a threshing outfit. There will be more applications for the services of separators than can be handled in the shortened season, and as a consequence many a crop will go into the barn unthreshed.

Don't you be one of those who "get left." Take steps now to ensure your crop being threshed at the proper time and at minimum expense. Find out how cheaply you can install a separator and become your own thresherman.

Get the facts about "The Call of the West," the fastest working and most efficient grain separator of its size in the country.

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Then along with the actual cash return, these minutes you are at present allowing to pass unused will also bring you increased business ability, practical selling experience, and the foundation for a little business of your own which will yield you an income year by year without disturbing your present connection.

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The Farm Truck a Profit Maker

How One Fruit Farmer is Saving Money by the Use of a Two-Ton Truck

Hauling livestock in trailers or trucks is common now.

IS THE motor truck coming into use on Canada farms as an economic addition? This question is being asked by hundreds of small and large farmers, gardners, milkmen, and also by bakers, cream gatherers and others doing a large business among farmers. Now that a small truck at a reasonable price is coming on the market, many are trying the experiment. And apparently it is paying them. The first outlay is no more than for a team of horses and the operating expenses are no greater, considering the high prices of oats as well as the scarcity of labor.

Perhaps the saving in man power is the biggest item. It enables the owner to be back at his work in a few hours.

An orchardist in Michigan living on a forty-acre farm has told his experiences in *System on the Farm*. He says:—

Two years ago, even in the busiest season, I had to stop my work at four o'clock in the afternoon if I wanted to get my fruit out in time for shipping. The fruit in this vicinity is shipped by boat from Benton Harbor, which is eight miles from my place, and to get it to the docks in time meant taking my horses from their work and "shutting up shop" two hours before the day was really over. I knew I was not getting the most out of the farm when so much of the day had to be taken for hauling, but the sandy roads to the shipping point could not be covered in less than two hours each day. With the long wait for my turn at the docks I seldom was back home until midnight, my horses were overworked, and I, too, found I could not give my best efforts during the day.

ONLY A SMALL FARM

My farm is small—only 40 acres—and while I knew an automobile truck would solve my problem as far as saving time and the horses were concerned, still I felt it would be an extravagance because I would not have enough fruit to make the truck worth while. The idea of hauling fruit in this way was a new one in our vicinity, so when I suggested to a few of my neighbors that it would be economical for them as well as for me if I were to haul their fruit to the docks with mine, the idea was not received very enthusiastically. Most of them believed that fruit carried in this manner would be injured by the jolting. The plan looked so good to me, however, that I bought the truck anyway, taking a chance on convincing my neighbors of the practicability of carrying their fruit.

Taking in a load of hay on a trailer.

I purchased a two-ton truck, and found that instead of taking two hours each way, the entire time on the road now amounted to only an hour. This meant that I could now work up to six o'clock and could be in bed by ten for a good night's rest, my horses could be used all day in the field and give their entire energy to the day's work, and still my fruit would be at the docks on time and in just as good condition as when taken by team. I use from three to four gallons of gasoline and two quarts of oil for the trip.

HAULS FOR NEIGHBORS

My own fruit was arriving at the docks in splendid condition, but still I had not induced any of my neighbors to let me carry theirs. One day, in an emergency, however, a big fruit farmer in the neighborhood was forced to call upon me to carry a load of raspberries over one of the roughest roads in our section. I was mighty careful to call the attention of other farmers whose fruit I was anxious to carry, to this trip, so when the berries were removed from the truck and found to be in absolutely perfect condition, my customers were assured. Since then I have never had a bit of trouble getting a load together, and, in fact, can often collect more to haul than I can make room for.

USES TRAILER

My truck is of two-ton capacity, but I carry from three to five tons on it. In addition to this, I attach a wagon trailer, on which I get about 1½ tons. So you see one load carried in this way could not be carried by less than four or five teams. Of course the amount I can take in a load varies with the different kinds of fruits. That is to say, fruits carried in large crates cannot be carried in such big amounts as varieties that can be packed closely. I often take in from twelve to fifteen dollars a night from other farmers, although as large an amount as this calls for more than one trip. I could make only one trip with the team, but occasionally I make two with the truck.

MAN'S TIME COUNTS

I collect my money directly from the boat companies, which, of course, insures prompt payment. I am sure, however, that the two hours' extra work I can do on the farm, the additional rest I am

able to get, and the greater amount of work I can get out of my horses, represent the biggest value of the truck.

I use the machine from June 1, when I begin to haul strawberries, up to the first of December, when I finish up with winter apples. After fruit season is over I use the truck for hauling fertilizer and doing any other odd hauling jobs that may come up.

The way I manage in picking up fruit from the farmers for whom I haul, is to send my man around about four o'clock with a team and the trailer. When I am ready to leave at six o'clock I meet him at the main road with the truck and my own fruit, where the wagon trailer is attached. The top of the truck is built to accommodate as large a load as possible which helps me make a more profitable trip.

In two years I have never missed the boat through a mishap. I have had very little expense for repairs and, in spite of bad roads and the way in which I have overloaded the truck, the tires are still the original set and seem to be good for another season.

Looking Ahead for Implements

Good, Sensible Advice as Practised by a Member of the United Farmers of Alberta

By W. D. TREGO

HAVING spent ten years of my life in the implement business it has given me an opportunity which few farmers have had to see the great disadvantages the dealers and manufacturers have to contend with in supplying all the goods to the farmers just when they are wanted without having a shortage in some localities and a surplus in others, even in normal times, and it is now tenfold more important when all the iron and steel available is needed at the front that can possibly be spared from productive lines of industry, but it is much more important to have the actual requirements supplied for the productive lines before any are used in the destructive lines.

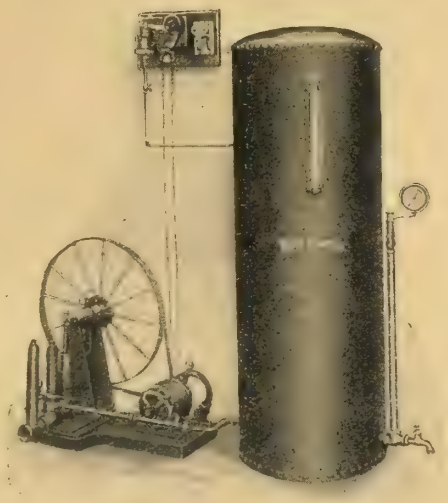
It is very hard for the local implement dealer to sit down in the fall of the year and estimate the number of binders which the farmers will require for their next year's harvest in his district, to say nothing of the repairs which they will require for all their old machines, but this is just what every local dealer is required to do so as to advise the factory which he is depending upon to supply him, else the factory cannot estimate their requirements for raw materials, labor and factory capacity to supply them.

If the factories under-estimate the requirements of the country and farmers cannot get the machinery necessary to harvest their crops in proper time they not only sustain heavy financial losses, but the Allies suffer that much more for lack of food and funds to carry on the war.

If on the other hand they over-estimate the wants of the farmers and manufacturer and ship out large quantities of machinery which is not required to take care of the harvest there is just that amount of material used up in that line which could just as well have gone to the front in the shape of guns and equipment to help our boys win the fight in which humanity the world over is so vitally interested.

HOW CAN THE FARMER HELP IN THIS?

If each farmer when he finishes his harvest and while he knows just what condition his binders are in will decide for himself if it will pay him to use these machines another year, and if so, make a list of the repairs he knows they should have to put them in proper shape and hand them in to the local dealer the dealer could then make a positive list of the requirements for putting every machine in his district in order for the next harvest and could be sure of having every part on hand at the proper time and he could then make an estimate of what would be required to keep them in repair by his record of past years' sales and making his estimate for the development of the district.



Where electric lines go, or with a special installation of a dynamo, the pressure tank water service idea is the thing. They are simple, easy to install and comparatively cheap.

If each farmer who knew his old machine had outlived its usefulness would go to his local dealer, and make his bargain for what new machines he would require he could not only make sure of having the machines when he was ready for them, but could save the local dealer a lot of worry in wondering what would be required and a lot of valuable time in canvassing the country to secure orders, and the farmers could get their machines for less money as every dealer can make a better price if the machine is sold before he invests his money in it and he has no expense in securing the order.

Farmers will be particularly interested in this article by Mr. Trego, because he is not interested in the manufacturers' end, but in the farm end, and for the sake of making more returns on his prairie farm, he does as he says.—Editor.

FENCING AND BUILDINGS AS WELL

What I have mentioned regarding binders and repairs for them is equally true of every other piece of machinery used on the farm as well as all fencing and building materials and binder twine, in fact every staple article which we must use for the production of every year's crop.

But some will say, how do we know that we will get the crop so as to require the machinery or other supplies.

Any dealer will gladly take your order and insert in it a clause which will relieve you of the necessity of taking it if you lose your crop from drouth, hail or other such causes, and if not, can you afford to go to all the expense of producing a crop costing you thousands of dollars and not be sure of having the machines to harvest it and the twine to tie it when the critical time comes when it would only cost you a few hundred dollars. I say most assuredly no.

If you do lose your crop one year you will want the machines and twine the next year and if you cannot dispose of them to any one else and should have to pay for them and hold them over for a year any bank would advance the money for a farmer who was taking such business precautions to pay for the goods and carry them over until he did require them.

I always try to practise what I preach and to show every farmer that I believe in what I am advocating I will say that in the fall of 1915 in November I bought 7 new binders for the 1916 crop and had them on hand in good time and at a much lower price than other farmers had to pay the following June and July beside many who wanted them at that time could not buy at any price.

In Novemebr, 1916, I bought 5 more and have them on hand at the present time.

In June, 1917, I placed an order for what gang plows I expect to require for my summerfallow work in 1918 and am assured by the dealers that the goods will be ready because the factory bought the goods to build them with in the month they were ordered.

I have a carload of woven wire fencing on track at the present moment which I do not expect to use until next May but I expect to have the land seeded to crop when I get ready to construct the fencing and I could not afford to take any chances on the possibility of not being able to get the materials to construct it with so I bought while I could get it.

Study your future requirements and place your orders and help win the war, farmers!

Puts you nearer your market

The nearer you are to market the oftener you can go, and, what is more important still, the more frequently can you take advantage of a temporarily high market. It stands to reason that if you could take two loads of products or stock to a high market where now you only take one, at the end of the year you'd be considerably in pocket.

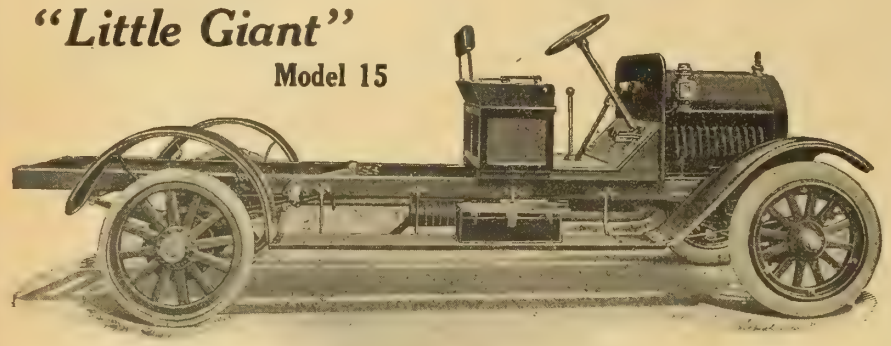
"Little Giant" Motor Trucks have already put many farmers nearer their markets. In many cases they have enabled these progressive tillers of the soil to have a choice of two or three markets where formerly they were compelled to use one only.

By giving greater speed on the road a "Little Giant" Truck not only gives more trips to market, but reduces the cost of these trips by from 33 1-3 to 50%. Markets are brought nearer, hauling costs are greatly reduced, and time for actual production is increased.

There is a type and style of "Little Giant" to suit every need. Write our "Help the Owner" Department for advice.

Write fully. Now!

"Little Giant"
Model 15



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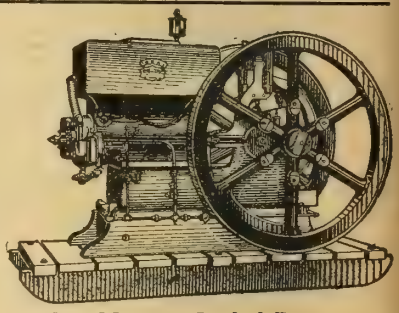

Our Hopper Cooled Design

Anyone can operate a "Brantford" Farm Engine and get every ounce of power out of it. It doesn't require any mechanical ability to keep this "no trouble" engine running smoothly all the time. Just crank her up—a few turns—and away she goes to run as long as you need power. Burn gasoline if you want to, but you can get just as much power and save considerable money by using Coal Oil or Naphtha.

The "Brantford" runs as well on the cheaper fuel as on gasoline—requires little attention—very rarely gets out of order—runs smoothly on any load—in fact, is the ideal general purpose engine.

Every engine guaranteed. Ask us, too, about "Brantford" Portable and Traction Engines.

The "Brantford" Windmill

is the most satisfactory and dependable power unit in the "air service".

Any piece of farm machinery that bears the name "Brantford" is bound to prove satisfactory for that name stands for super-quality in material and workmanship.

Can we send you our Catalogue? It describes a number of interesting investments in the way of labor-saving machinery for the farm.

The "Brantford" Feed Grinder

is speedy, sure and clean-working—saves feed and time. A paying investment.

Goold, Shapley & Muir Co., Ltd.

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Ventilation in Stables

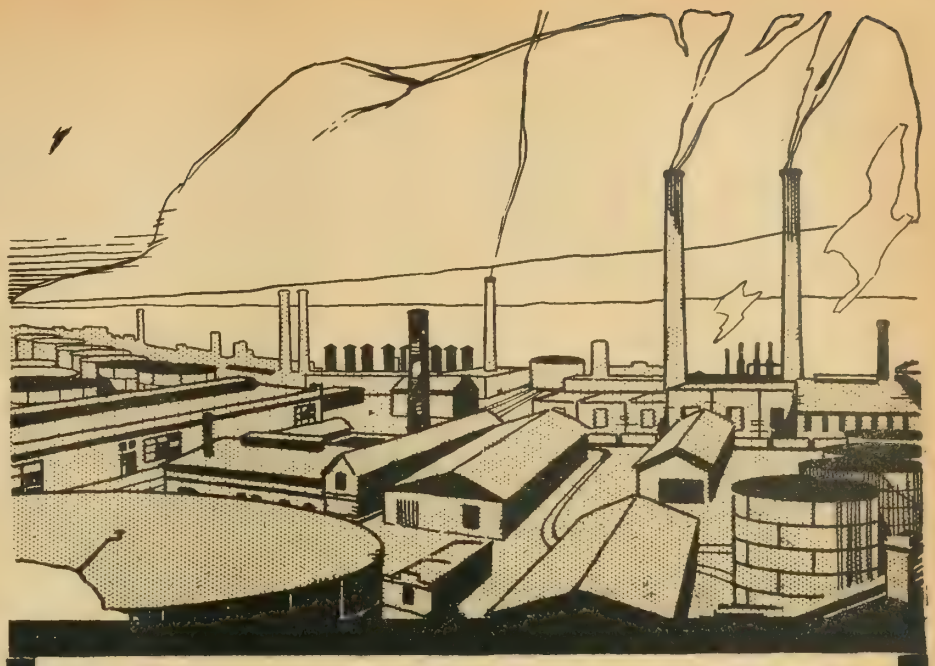
To be effective, ventilation must work unceasingly, night and day. It won't do to be constantly opening and closing the vents and inlets. Vents are necessary, but inlets are equally so. What would you think of a man who kept the damper of his stove tightly closed, and tried to improve the draft by increasing the number of stovepipes? This is the plan some of us are following in our attempts at ventilation. Experience leads me to prefer a system where the vents run from the ceiling straight up through the roof, and the fresh air inlets are at or near the floor, properly guarded outside and inside to prevent direct drafts. This system lowers the temperature more than one where the vent opens near the floor and the inlet is near the ceiling, but it will give much purer and drier air, and it is easier to prevent drafts when the inlets are at the floor. The system recommended is simple and inexpensive, and animals of all ages will thrive in the dry, cool air of such a stable in a manner pleasing to see.—Prof. Day.

Any Boy's Mother

I'm a rolling stone, a rover, I have tramped the wide world over,
From Timbuctoo to Dover, overland and oversea;
But Wheresoe'er I've tarried there's a picture I have carried,
Just a homely sort of picture that has crossed the world with me.
I have seen it in my sleeping, I have traced it in the leaping
Of the camp-fire, I have followed it 'mid rain and storm and wind;
Stronger far than time or space is, it has shone in far-off places,
Just a window in the homeland and *her* shadow on the blind!
Yes, my mother's house at Ealing, that's what makes the homesick feeling
At eventide come stealing, wheresoever I may be.
Just a window and a curtain, and at dark a light that's certain
To be burning like a lodestar that is beckoning to me!
Oh, the lure of travel calls me, and adventuring enthralls me;
I'm a rolling stone, a vagabond, to gipsy life inclined;
But however far I wander, sure, my heart's in England yonder,
And my eyes are seeking ever for a shadow on the blind!
Scenes of wild and awesome splendour, tropic loveliness, they lend a
Kind of glamour to existence, I'll allow you, but you'll find
That the picture that will hold you is the one that I have told you,
Just a window in the homeland and *her* shadow on the blind!

—Charles Ingram Stanley.

Wire fencing enhances the farm's appearance.



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We know Canada. We know farming conditions East and West. We know the lubrication requirements of the machines you use on your farm.

AN OIL FOR EVERY FARM MACHINE.

For Gasoline Engines, Tractor, Auto or Stationary.
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PRAIRIE HARVESTER OIL
—very heavy body, resists cold, won't thin out with moisture.
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—a thick oil for worn and loose bearings.

For Steam Cylinder Lubrication, whether Tractor or Stationary Type.
CAPITOL CYLINDER OIL
—the standard product for steam cylinder lubrication.

For Grease Cup Lubrication of Bearings.
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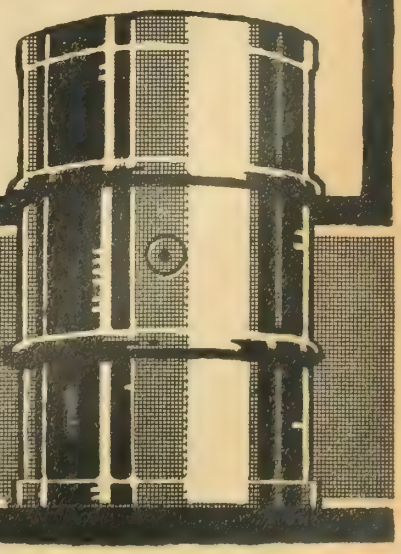
—a clean, solidified oil, high melting point.

All our oils are supplied in steel barrels and steel half-barrels — convenient, economical. No waste. You use every drop you pay for.



The Imperial Oil Company
Limited
BRANCHES THROUGHOUT CANADA

On the Track of the Tractor

The Farmer on the Eastern Farm is Finding How Gasoline Can Plow When the Soil is Hard and the Weather Too Hot for Horses

By ALONZA BROWN

"I BOUGHT the tractor because I felt that I could get my work done better with it than I could get it done without it." This was the answer given by an Ontario farmer who purchased a tractor last fall.

"Nearly every fall there is time when we want to get some plowing done and want to get it done very badly in order to kill weeds and to get fall wheat sown when it is almost impossible to get it done on account of the ground's being baked solid. We have always managed to get it done in some way, but it has been killing work on both man and team. Even then very rarely have we got the land wrought up to the depth that we most wanted. Then in the case of the plowing that must be done immediately after harvest till we got the tractor we had to resort to all manner of makeshifts. Sometimes we disked the field, but that did not stir the land as thoroughly as we wished. Then we gang plowed instead of disking only to find that many weed heads stuck up to mature and seed the land for the next year. Harrowing did some good after the disking or gang plowing but the weeds were not covered as we wished. Then we resorted to plowing with the broad share. This was better than either disking or gangplowing but the job was a mighty hard one and could be done right only when we had the combination of a first class man and a good team. All in all, I decided that I had better buy a tractor and I'm not sorry."

By means of the tractor this farmer gets his plowing done as he wants it done and when he wants it done. Last fall it was good to see him turning the field over at the rate of five acres per day, and at a cost of a little less than fifty cents per acre. When the field was plowed, not a weed was left in sight. Further, there was no need for a second plowing, a very considerable item these days when there is much to be done on the farm and when labor is scarce and dear.

A beautiful piece of work and a satisfied operator.

A MOVING FORCE IN CROP PRODUCTION

"We have 80 tractors ready for work on Ontario farms, orders totalling 15 more are in and I would not be surprised if we had 150 tractors at work fall plowing inside of six weeks.

"I believe that the small tractor is going to be the solution of the labor difficulties. Sufficient experimenting has been done in the province this year to convince me that the idea is practical. We have charged the farmer 45 cents an hour, he to board the operator, supply the gasoline and oil. If it rains, we pay the tractioneer's wages while the farmer boards him. That divides the burden satisfactorily.

"Any farmer ought to be able to learn to run a tractor with a few lessons from the factory experts. And where the personal interest is greatest the service rendered is greatest. The farmer who understands and runs his own engine knows when, how, and where to save. Under him the tractor is proving mighty serviceable.

"Tractor power on Canadian farms is the coming power I fully believe in their greatest possibilities and usefulness."—C. F. Bailey, Asst. Dep. Min. of Agriculture for Ontario.

LAND WORKED FINE IN SPRING

"And how did the fields work up this spring?" I asked. "Never better" came the answer. "I found the land as mellow as I could wish for." "Of course, this season was a good one," he continued, "but the tractor work compared favorably with that done in the old way."

"And what of the tractor as a helper in spring operations?" I queried.

"I found it all right. Of course I used it on fields that are naturally well drained. Even there I used the wheel extensions. I used the two disks, the one an in-throw and the other an out-throw. These were both of the wide variety that ordinarily require four horses to draw them even when they are not set more than half forward. With the tractor I set both disks full forward. In addition I had the iron harrows attached and in places where the ground was hard I added a few heavy boulders as make weights for the disks. In this way I made a splendid seed bed. So far I see none but good results. Our farm is well drained, and we watched to get the work done at the right time."

It must be remembered that the spring

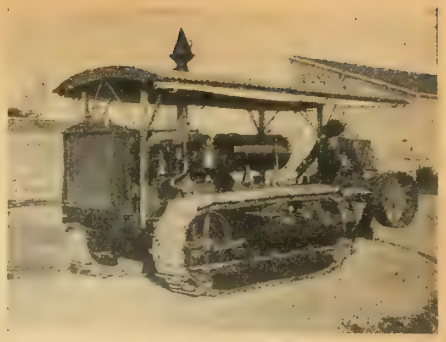
The tractor has pulled many binders in Ontario this harvest. Where a sat isfactory hitch is provided there is little trouble.

A farm tractor that is doing things in the States. This was taken for the Farmer's Magazine at the Fremont Show.

of 1917 was a fine one for tractor. One readily sees that seeding time such as that of 1916 would make it very difficult for the tractor to be of much service.

the tractor shows to fine advantage in preparing a root field. Often this field is not prepared as well as it should be because the land has become hard. The tractor used as described with disks and harrows soon reduces the field to a fine seed bed.

All this means that lighter horses may be kept on the farm. The average farmer who aims to feed his grain and hay on the farm will require a team for marketing and for hauling in grain and roots and such purposes, but with the tractor for the very heavy work he can afford to keep not only fewer horses but also horses of a lighter and really hardier variety. It means, too, that the farmer is going to be spared many a hard day's trudging after disks and harrows and many a toilsome wrestling with the plow in hard land that none but the sturdiest can plow well. It means, too, that the farmer is given a chance to live longer and better, a consideration not to be despised in times when every man's life is an asset to the state—to say nothing of his own satisfaction in spending a few more years in usefulness. It is something for a man of sixty, with the assistance, of a tractor, to do the work of at least three men and to it well and economically.



A style of caterpillar tractor about which great claims are made. It goes anywhere in any kind of soil conditions.

THE COMMUNITY TRACTOR

The tractor is just the thing where neighbors can work co-operatively. One tractor may well do the work on three or four hundred acres in such work as silo filling, threshing and grinding and wood cutting. The neighborhoods that have large quantities of Alsike will find the tractor a friend in need at threshing time. Many farms already have the lighter power gasoline engines. These may be set to such work as running the milking machine or pumping, while the tractor will readily take up the heavier tasks. The more belt work the farmer can secure for his tractor the more will he reduce the cost of its maintenance.

The tractor is bound to win out in the battle with weeds. For years the farmers of older Canada have found, that do what they would, the weeds were gaining ground. The sow thistle and twitch grass were a positive menace. Along with the weed danger has come the scarcity of labor and at the same juncture came the insistent call for more food production. In view of the growing difficulties of their situation many an agriculturalist was driven nearly to despair. The tractor bids fair to aid in all respects.

HOEING AND SCUFFLING IS SLOW

It is almost absurd for a farmer to attempt to clean a field by hoeing and scuffling as his chief aids. With the tractor to assist him he fights in hope of victory. Take the root field for an instance. The previous fall is the time when the real work of killing weeds is done. As soon as the crop is harvested the tractor may be turned on the field without respect to the intense heat that often comes at that time of the year. One week's exposure to the heat and drouth

CANADIAN MADE FOR CANADIAN NEEDS

Sawyer-Massey Small Model Tractors are built by Canadians for Canadians. They are designed by men who keep in close touch with Canadian conditions and who, by making a careful study of their needs, have succeeded in building Tractors which specifically meet the particular requirements of Eastern Canadian Farmers.

See the Sawyer-Massey Small Model Tractors at work at the big Eastern Tractor Demonstration.

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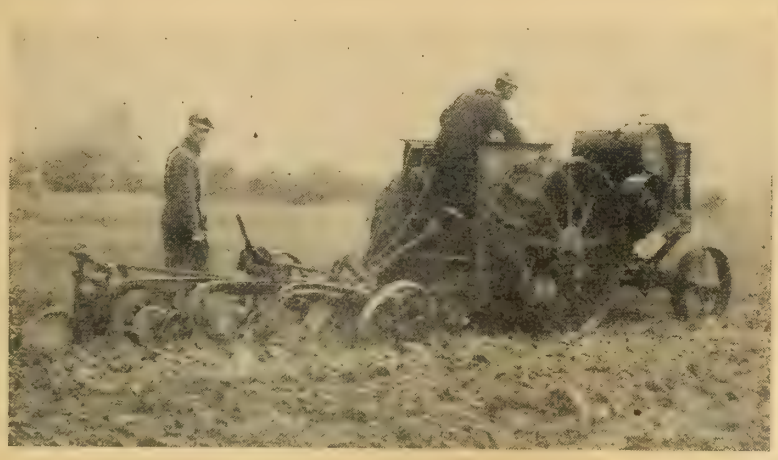
SAWYER-MASSEY 16-32 4-cylinder Gas-Oil Tractor



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A Sawyer-Massey 12-22 at work on Mr. Harris' Farm near Toronto

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The name is a sufficient guarantee that each part of these tractors is made to the highest standard, with material and workmanship that mean mechanical perfection.
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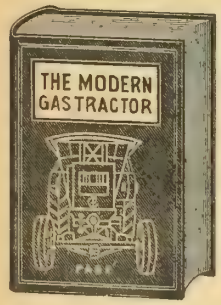

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of August with an occasional disking and harrowing either with the aid of the tractor or with the horses as the autumn grows and the weeds die by the million. As the fall work approaches the field may be sown to rape or to rye and fall vetch and made ready for fall or spring pasturing. In the spring as the hot weather comes on the field may be well plowed again. In the case of corn, farmers are finding that it does not pay to plant till the ground is thoroughly warm. This means that the tractor and disks and harrows have a golden opportunity of turning the weeds to the heat of the early summer. Each extra cultivation destroys weeds by the million and saves a lot of human toil with the hoe when the atmosphere is sizzling at nearly ninety in the shade. Further, the extra plowing and disking means that ground is left mellow, a condition in which the weeds are readily overtaken and that does a great deal to conserve moisture.

In the case of late sown crops such as beans or buckwheat, the tractor gives the additional plowing that goes long distance towards sending the weeds out of existence. In not a few cases these crops are grown because they can be sown late and the farmer has the cleaning of a field in his mind, or he sows the buckwheat because some other crop has failed him. In both instances he would like to plow his field but the time is late and the weather hot. The tractor comes to his rescue with the result that he has a far cleaner field and a better crop than if he had been unable to get the plowing done.

The point is that the tractor allows much plowing to be done and to be well done in the season when the weather is hot and dry, the very season when the weeds are most readily exterminated.

Getting Up Steam

Here is something about firing a traction engine boiler with coal and wood that comes in timely just now.

After the fire is started and the steam gauge shows 10 or 13 pounds pressure, the blower may be turned on to force the draught, and after the boiler is hot and the steam is almost up to the working pressure, the tubes should be cleaned thoroughly, as considerable soot adheres to them during the process of starting the fire and getting up steam.

When firing with coal, break up the lumps so that the largest is about the size of a man's fist. Keep the fire not more than 5 inches thick. When firing, spread the coal on the thin places, never allowing the fire to burn out in spots; because then the cold air will rush into the firebox through those places and cool off the boiler, calling for the burning of more fuel than would otherwise be necessary.

Some kinds of coal will clinker when stirred from the top, especially if the fire is quite hot. In such cases, keep the fire clean by shaking the grate.

Keep the fire door closed as much as possible, for nothing will cause the tubes to leak as soon as holding the fire door open too long when the boiler is hot, allowing cold air to rush into the firebox and the flues, cooling them suddenly and causing contraction and leaking. This happens especially when an engine is pulling a heavy load. The fire door should be closed after each shovel of coal is distributed over the fire.

Control fire by the draft door. Open wide when getting up steam, and partially open it when the engine is running. Never check the fire by opening the fire door. Keep the ash pan cleaned out; nothing will ruin the grates like an accumulation of ashes. Banked up underneath the grates, the ashes allow of overheating and consequent warping and burning.

When firing with wood, keep the firebox well filled, placing the wood so there will be no hollow places. Open the draft door just enough to admit air to support combustion. A great volume of air rushing through an open fire will bring poor results.

It is good policy to fire the corners heavier than the sides, because at these points a great draft occurs. Just before shutting down, fire lightly so that when shut down the boiler will not blow off, and also, the fire can be readily cleaned.

Canada's Wheat Crop

Sir John Aird's estimate of 200,000,000 bushels of wheat from the Prairie Provinces seems likely to be well within the mark. A total of over 242,000,000 bushels of wheat from all Canada looks quite possible now.

Tractor demonstrations are frequent occurrences in every township. What the farmers want is the experimenting to be done by somebody else. When the successful machine comes, watch the scramble for it. As far as work is concerned this one is on the job.

In the Cotswolds

TO HUGH RIVER

The enclosed is a free translation from the French of a beautiful poem, by Emile Cammaerts, the poet laureate of Belgium. The theme is a beautiful spot in England that will appeal to many. —Editor.

Oh! The eternal sublimity of the earth!

How many springs, how many summers, autumns and winters follow each other tirelessly on these austere heights?

There the Saxons have passed, there the Romans and their "castra," the Normans and their cavaliers, traversing perhaps these same roads—following these same paths which we now tread with thoughtless feet.

And the wind lashed their faces and the rain beat their breasts as they sung along these self-same hills, while from afar shone the broken crests of the Welsh mountains wreathed in mist and below the Severn gleamed like a meteor between the muddy banks of its wide estuary.

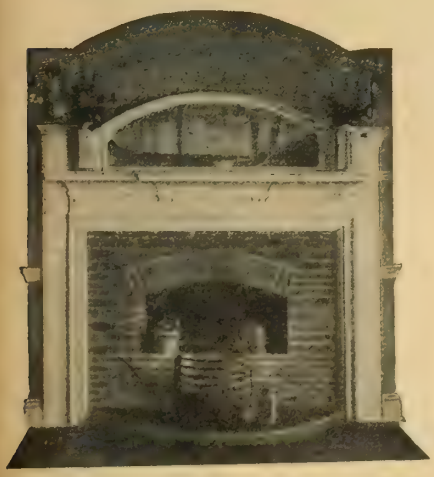
Oh! The eternal sublimity of the earth!

It is a Sunday in May. The churches in the valley are holding prayer. It is a beautiful May morning. The tower of Gloucester, enthroned like a queen on her dais, lets fall a decade of clear notes while over there Whitcombe, Birdlip and Cheltenham wake one after the other to pay her homage, and the birds around me — blackbirds, chaffinches, larks — and the streams and all the flowers—primroses, hyacinths, violets,—and the breeze through the wood, reply as a choir to the echo of her voice.

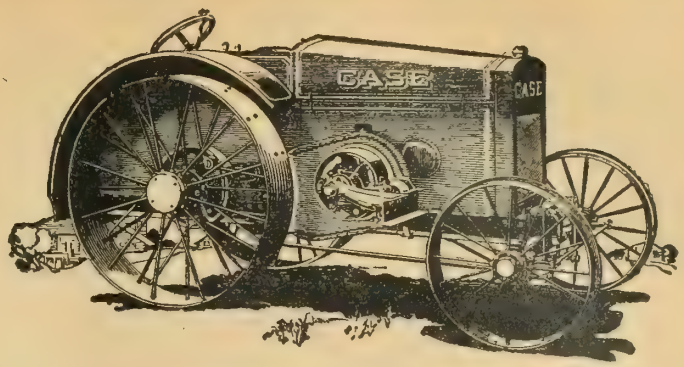
Oh! the touching humility of man, all that we would be and the little that we are, the invincible calm of this spring day and the obstinate force and the wayward headstrongness of this life which pursues its even course as if nothing had happened, with its old themes, old hopes, old miseries and the superb insolence of its unconsciousness. . . .

Oh! The eternal sublimity of the earth!

—Emile Cammaerts.



A Brick Fire Place Lends Comfort to the Farm House



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Canadian National Exhibition

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This remarkable little tractor will do the work of six horses in the field, and will furnish power to operate every kind of machine on the farm, economically—easier, faster and better than your present method.

A boy can handle it and we will teach you how to hitch it to any kind of job.

Made in sizes from 9-18 H.P. up.

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WE SAVE YOU 35% DUTY

USE Electric Light and save your eyesight

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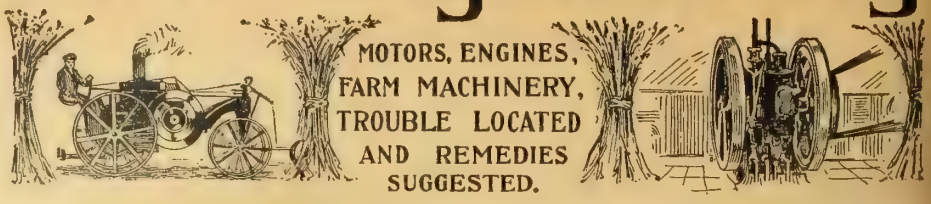

Tractors at Canadian National

Big tractor demonstrations are to be the feature of the Canadian National Exhibition at Toronto this year. Doubtless there will be big crowds of farmers to see the work of these machines, the real work of an exhibition. The cause of agriculture has been receiving less and less attention from the exhibition directors up to the time of the war, but now the necessity for greater production has opened the eyes of the people to paying more attention to the needs of the farmers.

Autos on Prairie Farms

At different farmers' gatherings in Western Canada this year every conveyance at the place was an automobile. In some school districts, it is said that every farmer owns an auto. And in Ontario the number of cars owned by farmers is surprising. At a York County picnic of the Holstein Breeders over fifty cars were present, and these were not by any means the cheapest types of car either.

Hauling Grain to Market

The sight of long trains of wagons loaded with grain and propelled by a tractor will not be an uncommon one, especially where the larger farms are located in the West. These tractor-trains will permit the moving of crops night and day if it should become necessary, and will do much to solve the farm transportation problem. In farming districts where hard surfaced roads are found tractors will be used in hauling crops to the larger market centers, which will relieve the railroads of much short-haul business.

An important factor in arousing the farmer to the addition of tractor power to his equipment is the high cost of feeding work horses. A tractor can be supported for much less than the cost of feeding four or five horses required to do the same work, and can be worked twenty-four hours a day.

Tractors Put in U.S. Crop

The availability of the tractor for all-round farm work — it can be used for everything that has required horsepower in the past—has been demonstrated most aptly in the fields of the middle Western States this year, says the *Scientific American.* For plowing disking, cutting hay, planting corn, harvesting wheat and oats, hauling loads of farm produce to the market, operating silos, and doing the thousand and one things for which power of some kind is required, the tractor is unbeatable. It has been worked night and day in many districts and has been responsible for such States as Kansas, Nebraska and other wheat belt States making a good showing this year despite the fact that millions of acres of winter wheat were killed by the severe cold weather.

In Kansas the situation would have been most serious if it were not for the fact that the state council of defense mobilized the tractors and put them to work on a schedule of from eighteen to twenty-four hours a day. More than 4,000,000 acres of wheat had been winter-killed in Kansas, presenting an unusual problem for the Kansas farmers who desired to do their bit in the campaign for increased food production. A fleet of 4,000 tractors was kept busy for several weeks plowing this ground and preparing it for corn and other spring crops and the sight of tractors working during the night time, with the aid of lights borrowed from automobiles, grew to be a common one, until the council of defense announced that the crisis has been passed successfully. Night shifts had to be provided for the tractors and these weapons of peace had to be so distributed that no community in the state would suffer because of lack of power with which to plant the spring crops.

Making the Ford Plow

At a recent demonstration of a Ford car operating a plow in Prince Edward County the Form-a-tractor was taken apart and changed into a runabout, driven around and transformed back into a tractor. The whole operation, including some stops to explain the various operations, took just twenty-seven minutes. What appeared most interesting was the fact that all strain is practically taken up by the "bull" wheels, which apparently push the car ahead of them. The power is applied by means of roller pinions attached to the rear axle in place of the rear wheels of the car. These roller pinions work on a circle of teeth made up of segments and attached on the inside of the "bull" wheels. The power thus attained is eleven times the power of the ordinary high speed gear of the Ford car. The engine both starts and runs in high gear continuously, the gasoline lever being used in position which would mean about 20 miles an hour for the Ford under ordinary conditions.

A good field for big implements

TRAPPERS HUNTERS FISHERMEN CAMPERS

BE PREPARED

AS the factories are busy turning out supplies for the Allies, many will be disappointed this year in securing their favorite rifles, ammunition and supplies, so order early before the other fellow has picked up the goods you want.

HAVE FISH IN CAMP

A Gill Net will supply them, only 20 cents per yard, mounted with leads and floats ready for the water, give size of mesh, stretched measure desired.

Sportsmen—

We carry a stock of Marble's Sights, Hunting Knives, Axes and other specialties, also Acetylene Headlights, Camp Lamps, Lanterns, Collapsible Camp Stoves, Gendron's Shoepacks and Boots, Tents, Packsacks, Sleeping Bags, Dunnage Bags, Compasses, Raincoats, Rods, Reels and Fishing Tackle of all kinds in fact, almost everything you require in the camp or trap line.

Fishermen—

We can supply you with Hoop, Brook, Trammel, Gill, Pound and Dip Nets, Seines, Lines and other Fishermen's Supplies at very close prices.

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as they will largely increase your catch of fur.

Write to-day for the new 1917-18 EDITION OF HALLAM'S TRAPPERS' and SPORTSMEN'S SUPPLY CATALOGUE, 32-pages, illustrated, which we will gladly send you free on request. It will save you money. Address in full, using number.

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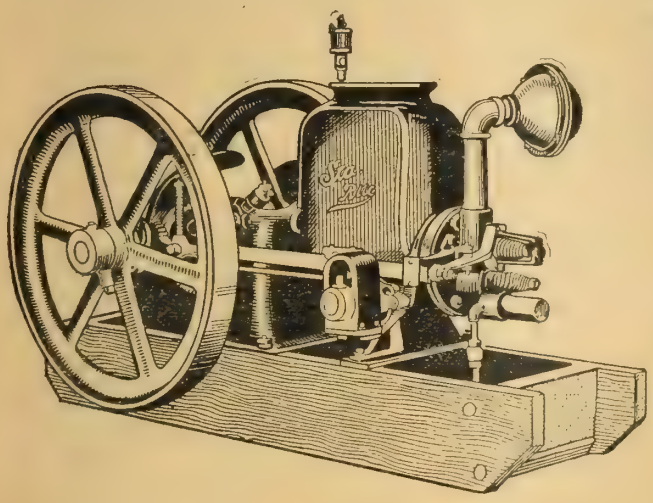
Let the Renfrew Sta-Rite Help You to Farm Intensively

SOMEONE has calculated that it required 50,000 acres to supply the meagre necessities of each savage; while less than 25 acres are available for the exacting demands of each citizen to-day. Add to this the enormous pressure upon the farmer with the whole world pleading for more and more intensive cultivation and then you will understand why the farm gasoline engine is the farmer's "right hand man" to-day. The

RENFREW STA-RITE GASOLINE ENGINE

solves the busy farmers' problem. No time has he to coax a complicated engine to do its work. That is why the extreme simplicity of the Renfrew Sta-Rite construction appeals to every farmer.

The Renfrew Standard takes in the fuel, lights the charge and evacuates the cylinders in the simplest manner with very few parts. It develops full power with less fuel.



Write for circular describing the extremely economical and simple fuel feed system, the make and break igniter, the oscillating magneto and many other efficiency features that make the Sta-Rite the ideal farm engine for every kind of work.

Standard Cream Separator

Write for booklet describing how the Standard gets all but 1/10 pound of butter fat, while others lose a whole pound in 1,000 lbs. of milk skimmed. Also other Standard features, many of them exclusive.

The Renfrew Truck Scale

Wheels around like a truck. Weighs anything from a pound to a ton. Write for Scale booklet.

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AGENCIES ALMOST EVERYWHERE IN CANADA.

Every Farmer Will Demand a Tractor

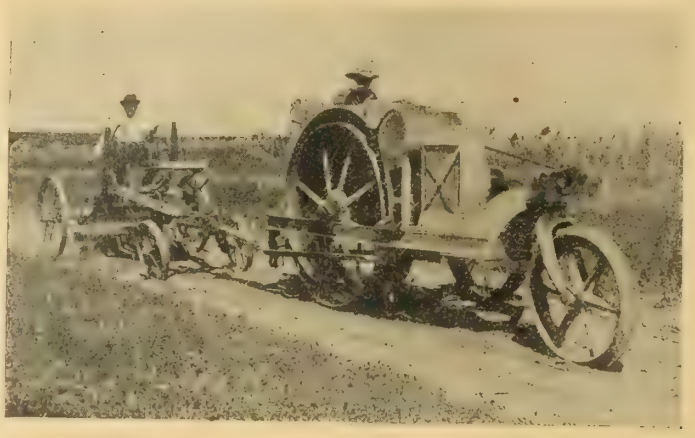
A Successful Tractor in One Vicinity Means an Unlimited Demand

By F. C. MACKENZIE

WE NEED more tractors in Canada. Animal power and man power are short. The war has withdrawn from the fields so tremendously that the production of foodstuffs for the warring nations is going to run perilously close to the famine edge. And no one has suffered more in his business than the tiller of the soil. His help has become scarce and his needs in machinery and supplies have either advanced in price or have become so slow in delivery that he is in a quandary as to what move to make next. He has responded to the call of greater production with a crop in Canada that is simply amazing. He has done wonders with the help at his command. But he has reached the limit of his powers. There will be no more acreages, and not as careful a saving of the harvest he has if mechanical assistance does not come at his command.

This war has affected crop production throughout the world by taking from production a vast supply of horses, and millions of men. Russia has not sufficient horse power to produce enough food to supply her own people. Great Britain and France have contributed thousands of valuable animals both to the cavalry and to the slaughter. Italy and Belgium have been fairly well drained. The enemy countries must be near the point of exhaustion in their supplies. For the first time the number of horses on American farms showed a decrease from 1915 to 1916. And this is not to be wondered at. The exports of horses increased from 22,776 in 1914 to 289,349 in 1915, while the export of mules rose from 4,883 in 1914 to 65,788 in 1915.

In 1916, horse exports were about 366,000 and in 1917, 282,000, while mules exported were 120,800 in 1916, and 150,000 roundly in 1917, the year ending in June.



This tractor travels the road as well as doing the road dragging and scraping.

FOOD SUPPLIES ARE FALLING

The United States is, therefore, facing the same conditions that are before the other warring countries. The food supplies of the world are bound to drop to a low, perilously low level during the next two years. And to North America must the world look for its future supplies. The farmer is, therefore, face to face with these three serious conditions. He must produce more in spite of a constantly decreasing supply of animal power, and a real shortage of manual labor.

While the horses in Canada have increased slightly during the three years of war, the exports for the year ending March, 1917, were 32,416. Since then large numbers have left the country for the war.

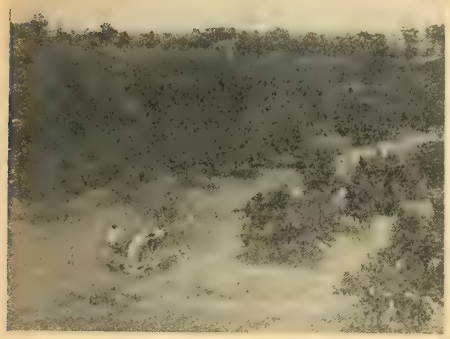
There is only one way out of the situation. Mechanical power must come to the rescue. The tractor, the automobile, the motor truck, and the gasoline engine must fill the breach.

There has never been any serious doubt about the tractor being able to increase the yields. Nearly every one now believes that the future holds a big place on the farm for the power machines. The main question is getting the right type out to the farmer at once. There is no use in arguing against the use in Western Canada because there have been so many failures of the big machines that are rusting out on the headlands of so many prairie sections. The early stages of any invention are bound to be lined with mistakes and costly experiment by the producers, unfortunate though it is. Many of these big tractors were totally unsuitable to the work. They were too big, too hard to handle, complicated in mechanism, and made by firms in many cases that were in

Personal Interest

The tractor is bound to become a farm implement of first importance for even the 100-acre man. I have found out that in every case where the owner of one has run it himself or engaged his hired man to do it, that the machines have stood up well and have been engaged almost the whole season, at plowing, hauling, reaping and belt power. Where some of the Government and patriotic committee tractors did not measure up, was due to the men in charge, whose interest was no greater than their ability. And consequently their work has cast a little reflection on tractors generally.

If any farmer is contemplating the buying of one, it is his best policy to go to visit a farmer who has one, and is using it himself. Discuss the whole situation under actual practice and then you are in a position to act as a good tractioneer on your own farm. These cuts show two makes of tractors, but they are not, necessarily, the best ones. The idea is what we are after in using these photos. There are many makes that are doing good work. Each has its own talking points. The farmer must settle for himself which one he will use, and in that regard the farmer must consult his own needs first. By all means he will not buy simply because the agent wants to sell When you need one, do not be slow in getting it.—EDITOR.



W. W. Armstrong, of Niagara, uses one in his peach orchard. He bought it last June and he plows an acre an hour, double discs 3 acres, and cultivates 4 acres in an hour. He has used it in rain and in dry weather, up hill and down, night and day.

Another view of W. W. Armstrong's tractor in his peach orchard.

A tractor that did good work at Fleming's farm, Whitby, last October. There are already a record number of entries for the next meet in September near Toronto on the jail farm.

the business merely to get away with a lot of quick sales and then forsake the business before the repair bills began to come in. As a result the tractor received a black eye from which it has been hard to recover. But the idea of engine power has gotten firm hold of the imagination, and there is no reason why a gasoline engine cannot be successfully hitched up to do the farmer's work.

ALL HORSES WILL BE NEEDED

It is unnecessary to argue horses versus engine. Horses will be needed for so many operations that the demand will not slacken or the horse pass from the stage of his legitimate work. There is use for all the farmer can bring to bear upon the situation, horses and all. Let the farmer use the horses for such work as they are best adapted and put the tractor to the heavier tasks for which greater power is needed. And perhaps the greatest service is rendered by the tractor in replacing man power. No matter how many horses a man may have he cannot work them in as large power units as a tractor. Six horses is the maximum number that he can work together satisfactorily. One tractor and one man can do the work of several men with horses. The tractor used in connection with nearly all tractor-drawn implements furnishes a complete one man outfit, a fact which helps the farmer out in his hired help problems.

EVERY FARMER A POSSIBLE BUYER

There never was a time when the tractor has been so much of a necessity as now. Every farmer is a possible buyer of a tractor. Down by the sea in the Maritimes the farmers are asking about this power. The Prairie Provinces are calling for new machines faster than the makers seem to be putting them out. In Ontario the demand has come with a rush. Even farms of 100 acres are thinking of buying a small tractor. The Ontario Government are putting out some 60 tractors this fall in order to assist in the fall preparation of the land. For some time they have had a dozen or more out in various parts of the province and the experimental work has been a good educator. A successful tractor in one neighborhood means an almost unanimous demand.

Already Europe has taken several thousands of tractors and the demand is going to increase. Canadian farmers should lose no time in getting their power problems settled for 1918. The farmer will be fortunate if he can get a tractor. Manufacturers tell us that they are dependent upon the delivery of materials, a most uncertain situation at best. It is the day of the tractor.

TRACTORS IN FRANCE

The *Irish Homestead* in speaking of the purchase of tractors in France says: A tractor plough driven by a discharged soldier who had lost a foot was doing as much work as four men and eight horses could have done in the ordinary way. The commune or co-operative society paid for labor and running expenses, and hired the tractor for ploughing at the rate of one pound per acre. The General Council of the Department, a body corresponding somewhat to our Country Councils, had voted fifty thousand francs to be used as loans to be spent in procuring machines. The railway companies carried tractors and those who taught their use to the scene of demonstration free.

HINMAN on the St. Mary's College Farm, St. Bruno, Que.

Simple, Safe and Sanitary

HINMAN MILKERS have No Gauges; No Safety Valves; No Pulsators; No Metal Piping to Clean Out or Freeze Up. SEE The HINMAN in the MODEL BARN at Toronto Exhibition and at Ottawa.

H. F. Bailey & Son - - Galt, Ont.

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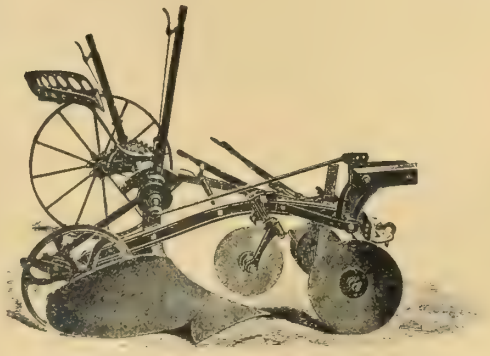
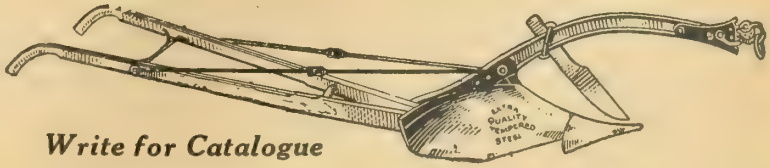
The Leading Line of Sulky and Walking Plows Built for Canadian Farmers



For over fifty years we have met the demand of farmers from all parts of the country and to-day we are operating the largest Canadian plow factory.

We know how to build plows, our practical experience means satisfaction to you. We make all sizes and types of plows to meet the conditions in all sections.



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Year after year for many years the thirty-five horsepower Overland has outsold, by a wide margin, all cars of such comfortable size.

An unequalled combination of power, comfort and economy, it has naturally been an unmatched success.

The thirty-five horsepower motor is not only unusually powerful—it is unusually economical.

The wheelbase is 112 inches — unusually long — permitting unusual roominess.

Also unusual at the price — cantilever rear springs that ease the car over rough spots—permit speed with comfort on poor roads.

No car of such comfortable size has ever approached its success, because none has ever combined such power, comfort and economy.

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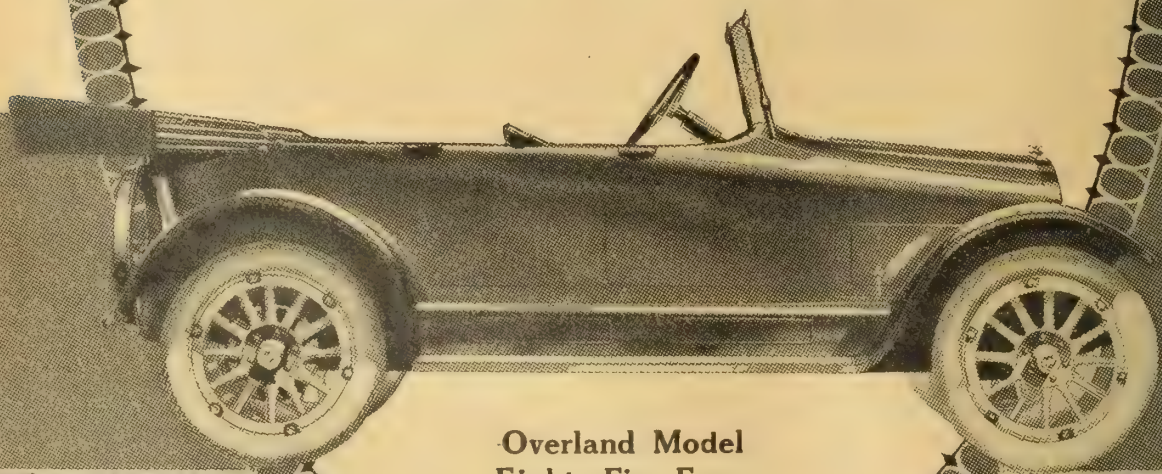

Overland Model
Eighty-Five Four

Lemon Juice Method of Canning

By MURIEL S. PETTIT

WHAT is known as the lemon juice method of canning vegetables, is given by W. V. Cruess of the College of Aficulture in California. It has been tried out and proven to be successful.

To get best results one should use all glass jars as tin always reacts more or less with the acids, in the fruits and vegetables. Black rubber rings are also best. To avoid rubber taste in foods, boil the rings 3 or 4 hrs. in a solution of washing soda and water, using 1 teaspoonful washing soda to 1 gallon water. Then boil 1 hr. in water made slightly acid with vinegar or lemon juice, then 20 minutes in clear water. One can prepare all rubbers to be used in the season at one time.

Sterilize the jars by filling them with cold water, place in a cold water bath and slowly bring to boiling point. Boil 15 or 20 minutes. Sterilize other utensils used by putting in boiling water and leaving a few minutes.

A wash boiler arranged in 2 compartments with heavy wire screen of ½ inch mesh cut to fit, makes a very good home sterilizer. Jars may be arranged in two tiers. Top should fit snugly so that steam will be confined and heat top part to boiling point also.

As bacteria do not thrive in an acid medium, lemon juice, vinegar or tartaric acid will prevent their growth.

BEETS

Choose small beets. Scald in boiling water or steam until the skins will slip off easily. Pack in hot sterile jars and pour over boiling brine solution, made in following proportions, 3¼ ozs. salt, 2½ ozs. sugar, 5 ozs. lemon juice, 1 gallon water. Fill to overflowing and seal, sterilize 1½ hrs. in hot water bath or steam.

SWEET CORN

Shuck and silk corn, brush cob with coarse brush to take away clinging silk. cut from cob and pack in hot sterile jars. Pour over boiling brine solution made in following proportions, 1½ ozs. salt, 1½ lbs. sugar, 6 ozs. lemon juice, 1 gallon water. Fill to overflowing and seal sterilize 1½ hours in hot water bath or steam.

GREEN PEAS

Select young and tender peas. Wasu pods and hull. Blanch in boiling water 2 or 4 minutes or until skins wrinkle slightly. Pack in hot sterile jars, pour over boiling brine solution, made in following proportions. 2 1-3 ozs. salt, 3½ ozs. sugar, 7 ozs. lemon juice, 1 gallon water. Fill to overflowing and seal.

Sterilize 45 minutes in hot water bath or steam.

PUMPKINS

Cut open pumpkins, scrape out pulp and seeds. Cut in pieces to fit in jars. Pack in hot sterile jars and pour over boiling brine solution, made in following proportions, 2 2-3 ozs. salt, 4 ozs. lemons juice, 1 gallon water. Fill to overflowing, seal and sterilize 1½ hours in hot water bath or steam.

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Heating and Lighting

The Farm Home Demands Regarding These Two Important Features

By ELUID KESTER

THE heating and lighting of the farm home, are two of the questions which most farmers desire to settle satisfactorily, but both of which, often are left in a very undesirable condition. Persons can't do their best in a cold place. Cheerfulness is aided by light. Consequently a farm house lacking efficiency in these two things, cannot expect the best from the family.

It is poor economy to save by cutting out these expenditures. We, as farmers, are not working for the mere fact of bread and clothes. Our immortality calls for the highest that is in us. No man can sit down contentedly in his full health, if his family and himself are poorly provided for. He must be up and doing to get the best out of his God-given privileges. He must farm better, make more money to help on the world's work, and to make other people better. And in no way along improvement lines can he do more than by studying the installation of heating, running water and lighting devices. The fuel question will be a serious one but not more serious than other questions. Economy in installation, saves at the spout. Let us look at the lighting question.

ELECTRIC LIGHTING

The cleanliness, safety and convenience of electric lighting have resulted in the installation of many isolated lighting plants on farms as well as many linking up with the Hydro and other power lines going by their farms. While almost any properly governed gasoline engine runs smoothly enough to operate a dynamo directly without serious fluctuation of current, it is not desirable to be forced to keep the engine running at all times when lights are needed. The storage battery is far and away the best lighting system where no power lines are available. The dynamo is driven from the engine and delivers its current to a storage battery. The wires leading to the lamps run from the battery, not from the dynamo. Compact outfits may be procured at small cost in which the gasoline engine and the dynamo it actuates are mounted together on a common base. The generator armature may then be attached directly to an extension on the engine crankshaft, guarding completely against failure of the drive. Automatic devices are combined with the outfit so that when the battery is properly charged the engine is automatically shut down. When the battery becomes discharged to a certain point, an automatic switch directs the battery current to the generator, which now becomes a motor and acts precisely as does a self-starter to set the engine going. The engine will then run until the battery is properly charged, whereupon it is again cut off. With a system of this sort, practically no attention is needed other than maintaining the supply of fuel and oil and filling the battery with distilled water to replace evaporation.

One woman who uses one of these plants writes about their conveniences. She says:

I feel that we have found that way since we have begun to use electricity here in our home. A great deal of time is saved by use of electric power to do work that I used to do by hand. There's the washing. Now I use an electric motor to run the washing machine and while it keeps the machine going I have that time to do up the morning work, look after the chickens and give a little time to the garden.

Our electric motor will run all the machines around the place that we used to have to turn with a crank. Last winter we used it to run the sausage grinder. My husband used it this spring to run the clippers to shear the sheep. It can be attached to the grindstone and most every way we use it is some way to save working with our hands.

On ironing day I use an electric iron, do the ironing in less time than in the old way and save heating up the kitchen. The men use the electric current to charge the storage battery on the automobile.

SAVING WOMAN'S WORK

We save time in the use of electric light instead of the coal oil lamps for I don't have the lamps to clean and fill. Electric light in the barn saves time too, for the men don't have to depend on lanterns which give very little light at the best and they are not very safe about the barn. There are nine electric lights at the barn and these make it just as easy to go around and do the chores as if it were daylight.

They are handy when the men stay late in the fields during harvest and come to the barn late to do the night work and they protect us too, for we can light up the barn after night better than if we had to go out with a lantern and thieves would leave in a hurry when the lights went on.

The lights in the house are a great satisfaction and would be worth while even if they saved no time. We have twenty-five lights in and about the house and they give us a great deal more light than we had the old way with less time and trouble. Electric lights in nice fixtures give the rooms a more comfortable and cheery appearance than coal oil lamps could ever give and we are proud to have our home lighted with light that we know is as good as we could have in a home in the city.

THE HEATING PROBLEM

A good heating system is not only a necessity for the protection of water pipes and plumbing fixtures, on which health so largely depends, but it is even more directly connected with the health problem. Sleeping in a cold room may be a good thing, but sleeping in a bed which has absorbed the damp chill of an unheated room is another matter. Heat should be available in every room in the house. To heat the whole house by stoves would cost more than with a heater, and

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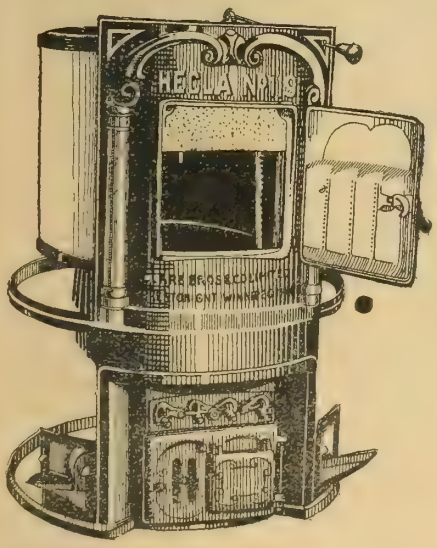
That bug-a-boo about warm-air heating



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If you wish to study further the many big features the "Hecla" has to offer, write for our free booklet, "Comfort and Health." It is clearly illustrated and describes each feature fully. With it we are sending from a limited edition a copy of the instructive booklet, "A Pure Air Heating Plan." These free booklets should be in your possession. Send for them to-day.

TO the man who has studied heating systems the "Hecla" warm-air furnace appeals strongly. Not only does it supply ample warmth but it also provides adequate ventilation. It refreshens all the air in the house and keeps in constant circulation. It prevents the atmosphere from becoming dried out and unhealthy by supplying it with the proper balance of moisture.

The "Hecla" is Clean and Gas-Free

You do hear, of course, that warm-air furnaces have disadvantages. From time to time it is urged that they are dirty, that they smell of gas.

But those complaints never come from a "Hecla"-heated home. That bug-a-boo about warm-air heating was killed by the "Hecla" Patented Fused Joint.

Even after life-long exposure to heat this joint can never spread. It is sealed tight, leakproof. We guarantee it for the life of the furnace. It keeps smoke, gases and fine ash-dust shut in the smoke-chamber till they reach the smoke flue. Thus, the "Hecla" is a clean, gas-free heating system.

Investigate the "Hecla" Without Obligation to You

Bear this in mind. If you send a rough sketch-plan of your home, we furnish expert directions for adequate heating by a "Hecla" furnace. If these directions are followed, we guarantee the warmth provided will be ample for your home.

In Spring and Fall you will benefit by the "Hecla's" flexibility. Its patented steel-ribbed fire-pot enables you to drive out the chill quickly with only a small fire. In the depth of winter and there are thousands of "Hecla" owners who will agree with us the wider heat-radiating surface of this steel-ribbed pot saves one ton of coal in seven.

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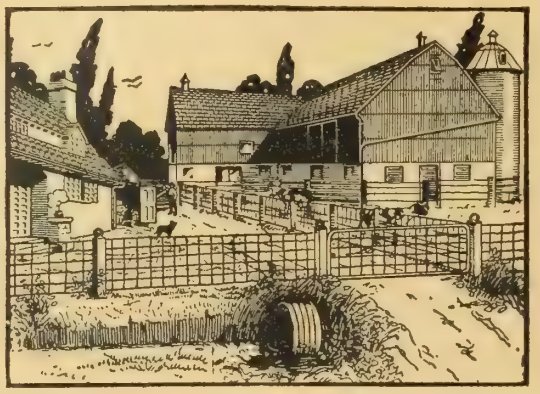

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the house would not be well heated at that.

Stoves make work in carrying fuel and ashes, blacking the stove, sweeping and dusting rooms, cleaning rugs and carpets, and washing curtains. The soot and ashes blacken walls and ceilings. This not only takes time and vitality, which might be used at a profit, but it soon calls for a cash outlay to renew rugs, carpets, and curtains, and for repapering and painting. Heat from stoves fluctuates greatly. A moderate, even heat is required to bring about the relaxation of nerves and muscles, which is necessary for the repair of waste tissue and keeping body and brain in fit condition.

A hot air heater is low in price, supplies fresh air, heats up quickly, and supplies much or little heat according to the weather. In a small, compact house it is very efficient. In large houses and where the pipes are of unequal length, it is hard to deliver heat against the wind.

A steam heater will deliver heat anywhere. The piping system and radiation cost less than in a hot water system, but the fuel cost is higher. It is too intense for mild weather, however, and the heat is apt to fluctuate greatly. Steam heat is better adapted to large buildings than to homes.

A vapor system of heating lies between steam and hot water in cost of equipment, cost of fuel, intensity of heat and general fitness for home conditions.

A hot water system is the best for house heating. The heat can be varied to suit the weather, and the fuel cost is low. It is slow to heat up, but it is slow to cool off also. It requires more head work to lay out the piping system, and it costs more to install than steam or vapor, as it takes more pipe, radiation, and labor.

A hot air, steam, or vapor heater must be set below the rooms to be heated and the piping system must be run in the cellar. No matter how well the pipes are covered the heat is apt to spoil the cellar for the storage of vegetables.

A hot water heater may be set on, or above, the level of the radiators and the hot water pipes distributed to the radiators without going through the cellar. Only the cold water return need come through the cellar. Where there is no cellar or where for any reason the heater and pipes are not wanted in the cellar, a hot water heater may be set in a woodshed or other addition to a house, and waste heat may be used to heat the room.

Heating equipment is so well standardized that local dealers almost anywhere can be depended on to install a satisfactory system.

The cost of a heating system will vary from $125 for a small house heated by hot air, to $300 for a large house heated by hot water. And what's this price considering the comforts?

Rural Leadership

Following the annual convention of ministers and others at Guelph in July, an association was formed to keep up the spirit of rural leadership during the year. G. N. Simonds of Springfield, is President.

So You Should Never Quit

The man who most wisely said,
"Be sure you're right, then go ahead,"
Might well have added this, to wit:
"Be sure you're wrong before you quit."

THE GLUTEN OF BREAD.

Protoplasm is much talked about and called the physical basis of life, but when the layman speaks of it, he often has no definite picture in his mind. He knows that it is said to be like an emulsion, that it contains carbon, hydrogen, oxygen, nitrogen, sulphur, and various salts, that it is so complex as to baffle any exhaustive analysis; and he thinks of it as a mysterious substance known to men of science, but quite outside his own world of experience.

This is not wholly correct. Most people, at least if they live in the country, have at some time chewed a few grains of wheat, spitting out the bran and swallowing the dissolved starch, until finally there was left on the tongue a little pellet of tough, elastic gluten. This gluten is one form of protoplasm.

Every living cell must contain protoplasm—otherwise there can be no life in it—and this protoplasm is arranged in the form of a network, as can be conveniently seen by study of a grain of wheat. The wheat kernel is not a single cell; it consists of the germ, or embryonic plant, and ten or twenty thousand minute flour-cells whose function is to supply nourishment to the embryo while it is sprouting. Flour cells and embryo are all enclosed in a fibrous protective covering, which, when removed by the miller, is bran.

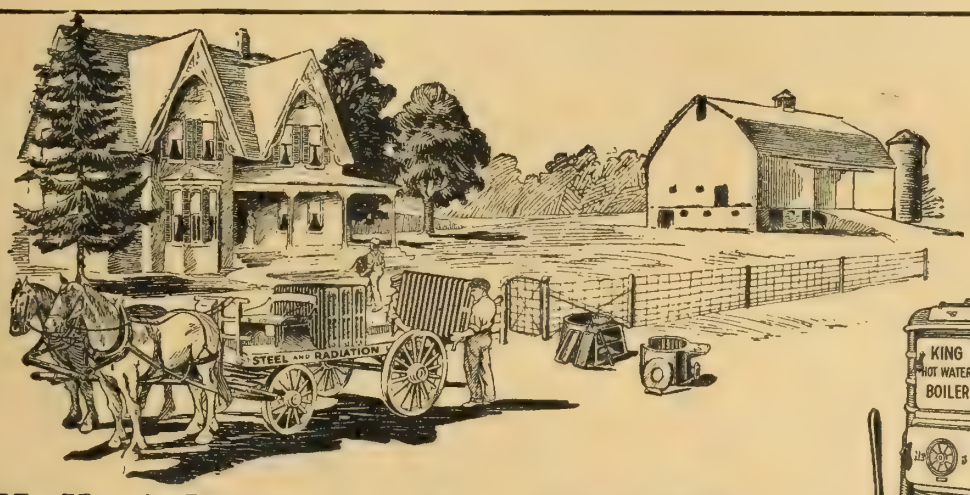
By careful handling, a single one of these flour-cells can be taken out and placed under the microscope. At first sight it appears to consist merely of starch granules. The starch is soluble in water, and can be washed out by boiling. It then appears that the cell has a complicated structure; that it consists of a network of tough gluten, in the interstices of which the granules of starch were lodged.

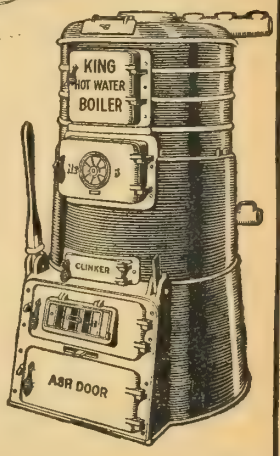
We are accustomed to speak of the wheat seed as having a suspended vitality, but this is only a rough approximation to the truth. The fact is that its cells are living and have indeed accomplished only one-half of their allotted life. The other half is connected with the transference of their material to the embryo as needed. The seed, therefore, has its living activities, and, though these are not as rapid as those of the ordinary plant cell, it is impossible to point out any other essential difference. Their rate of life is retarded, not suspended, as we ordinarily say, for if the seed be kept dry it goes on living for a number of years, according to the kind of seed, and then dies.

From this it is evident that flour, as it comes from the mill, is also alive. Most of the flour-cells will have been crushed, but some of them will pass through the rollers unbroken, thanks to their small size. Whether whole or crushed, they are alive. Wheat flour is living matter,

It has been found that the flour-cells in the interior of the seed contain the smallest amount of protein of gluten (about 7 per cent.), while the amount increases

Continued on page 73





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Hot Water Heating is so much simpler, easier, more convenient and keeps the house warmed up to a desired temperature so continuously and, last but not least, is so much more economical in fuel that there is no comparison with the old and discarded methods of heating by stoves and hot air furnaces. Be Well Advised—Put Hot Water Heating in your house. A King Boiler is worth more than it costs and the installation can be put in as early as you choose. A King Boiler in your home would be such an improvement and give so much real comfort and satisfaction that you should write us at once and get full particulars about this universally adopted method of heating

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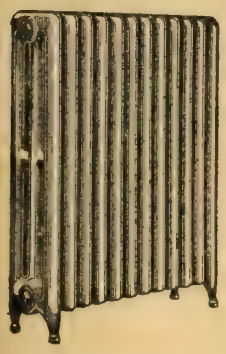

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Business of Farming

Where Will Alfalfa Grow?

A small herd of grade Holstein cows on the 20-acre farm in connection with the Illinois College of Agriculture produced last year an average of over 8,000 lbs. of milk on a ration composed entirely of corn ensilage and alfalfa hay. No meal whatever was fed. This represents profitable production and emphasizes the value of these two great crops for the dairy farmer. It is already well proven that corn ensilage or a good substitute can be grown in almost every dairy district in Canada. But how about alfalfa? Just a few days ago a well-known dairy farmer of Eastern Ontario remarked to me: "I have spent many dollars for alfalfa seed and have lost hundreds of dollars in the crops I didn't get, but I have never yet had any success. Don't you think it a mistake to advocate alfalfa as a general farm crop?" I fear that many others have had similar experiences and have come to the same conclusion. But I am convinced that given proper conditions, alfalfa can be grown successfully in every part of Canada. I have seen it growing well as far east as Nova Scotia, it is an approved success in British Columbia and has grown and wintered successfully as far north as Fort Vermilion in the Peace River district. Here are the conditions that assure success.

First, a well drained site; alfalfa will not grow with wet feet, but it will succeed on the heaviest soil if well drained. Second, a liberal supply of lime in the soil; Ruiter Bros., the well known Jersey men of the Bedford District, Quebec, succeeded with alfalfa when all others failed by applying 1,000 lbs. of lime to the acre. Third, the seed must be of a hardy variety; the choice in Canada at present is limited to two strains, the Grimm and Canadian variegated, with the former preferred. More failures in Canada have been due to seed of poor variety than to any other single cause. Fourth, the seed bed should be firm, but mellow, and free from weeds; the ideal seed bed is obtained by summer fallowing till mid-July and seeding without a nurse crop. Finally the seed should be inoculated with the proper bacteria to insure the development of nodules.

If all of these conditions are observed, alfalfa can be grown almost anywhere that red clover thrives and on the average, will be even hardier than the common red. The absence of any one of the factors mentioned may be sufficient to cause a failure of the stand, if not in the first year, then in the second. Alfalfa may be exacting in its requirements, but there is no doubt of its value. A ton of alfalfa hay costing four or five dollars to produce, has a feeding value equivalent to a ton of bran costing $35 wholesale at the present time. Its production practically ensures profitable milk production.—F.E.E.

The first binder in the Peace River District. Crops are good this year.

Increase Our Average Yields

The average yields of Canada's grain crops can be doubled in quantity by the application of more care in seed selection, and a just a little more labor and skill in tillage. And what is perhaps of even greater importance than quantity, is quality of product. The 50 per cent. yield will usually be of inferior quality, so that the loss involved in raising the small or poor crop, is two-fold. The gain in producing the large or 100 per cent. yield is also two-fold—a gain not only in amount or quantity but also in quality, and hence also in enhanced market value bushel for bushel. It is in the large yields that profits are made; the smaller yields many and ofttimes do incur actual loss. There are facts and factors making for success or failure which are apt to be ignored or overlooked, and yet which are of vast and vital import to the individual, the community and the nation, signally so in this time of shortage and of abnormal expenditures.

The conditions that count for success and ultimate independence for the farmer are: Thoroughness and a fair degree of skill in his work and intelligent, economic management of his affairs.—W. J. Way.

A Silo for the Renter

A few years ago a cold, wet season prevented the corn from ripening over a large section of the northern corn belt of the United States. Tenant farmers faced ruin. In the emergency a county agent, the equivalent of our district representative, evolved that type of silo known as the "Missouri" silo. This silo is cheaply constructed, easily taken down and can be carried from farm to farm along with the tenant's other equipment. Hundreds of them were erected, the immature corn crop turned into silage and, for many tenant farmers, the situation was saved. Perhaps there is a place for silos of this type on Canadian farms, not only tenant farms but as well to store the surplus of an extra good crop on freehold farms.

Iron hoops are dispensed with in this silo; strips of half-inch elm three inches wide and four ply thick make an efficient substitute. To construct them a circle of

the same diameter as the prospective silo is inscribed on the barn floor. Blocks are nailed around the inside of the circle and the elm strips are bent around these, care being taken to break all joints. The hoops are nailed securely with galvanized nails. These hoops are 18 inches apart at the bottom and two and one-half to three feet at the top of the silo. The siding is one-inch tongued and grooved flooring nailed to the hoops with galvanized nails. The flooring must be of a good grade and free from knot holes. A foundation of concrete may be constructed or the lower end of the staves may be set in a six-inch trench. The cost of a silo of this type will average about a dollar a ton capacity. All that is necessary, to build such a silo on the rented farm is a written agreement with the landlord whereby it may be taken down and carried to the next farm when the lease expires. It is not as permanent a silo as any of the masonry types or the patent wooden types, but it will give good service for a number of years. If built inside the barn it will last indefinitely.—Elmo Annan.

Barnyard Manure

There is a big loss on Canadian farms each year in the matter of farm manure, in letting it bleach out before being put on the land.

Farm manure carries but small percentages of nitrogen, phosphoric acid, and potash as compared to common commercial fertilizers, say Cornell Experiment Station. It is usually applied in such large doses, however, that the aggregate amount of plant food added is large. Twenty tons of manure is equivalent, as far as fertility is concerned, to a ton of quickly-available mixed fertilizer and to a ton of slowly available fertilizer besides. In addition there are the benefits derived from the added organic matter and the stimulated bacterial action.

Not only should all possible farm manure be used, but it should be used as soon as possible. Storage even for a short time and under the best conditions entails waste and losses of from one-third to one-half of the fertilizer value of manures. Once in the soil it is safe.

Manure is an unbalanced fertilizer in that it carries too much nitrogen for its phosphorus. Acid phosphate is obtainable and can be used to advantage in correcting this deficiency.

Added at the rate of from fifty to one hundred pounds per ton the effectiveness of both the manure and the phosphate may be markedly raised. The returns from this reinforced manure will also be increased by fineness of division and uniformity of spreading. The use of a manure spreader is advised wherever possible. When the amount of manure is limited, smaller applications over a larger area will raise the crop yield for each ton applied.

In my own case, I put some phosphates on each load of the manure spreader as it went to the field to top-dress winter wheat and the crop yields paid me for the trouble.—F.C.

Rate of Alfalfa Seeding

The Ohio experiment station finds 10 lbs. of alfalfa seed to the acre the most satisfactory rate of seeding.

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Our Fall Crops

Dawson's Golden Chaff is Ontario's leading variety of fall wheat.

If the crop gets too vigorous a start, pasture a little in dry weather in October.

Mammoth White is the leading variety of fall rye, but most people do not know varieties in this grain.

Top dress with a few loads of manure the fall rye and wheat, with which you have added some phosphates or gypsum.

Do not sow a fall crop on land and expect the good Lord to perform a miracle in order to get you a crop. Nature has laws that you ought to know fairly well.

General Reminders

Millet and buckwheat will be harvested this month.

Many a good potato crop has been torpedoed by twitch grass.

Now is a good time to plant out perennials in the flower garden.

What about getting in your loads of sand and gravel for the poultry.

Run some hogs in the old orchard to eat up the bad and diseased fruit.

Insist on daily looking over of the tractor and all operating machinery.

Perhaps you can buy some good pullets at a bargain. They will be scarce.

It might be well to contract for your feeds now while prices are at their lowest.

The seed is what counts the most in field crops as well as in animal breeding.

Honey must be stored in a dry warm place. It candies if kept in a cool place.

Evergreen trees may be planted now and you can enjoy them during the winter.

Vegetables worth raising are worth storing. For this the pit or root cellar is the place.

Silo work will begin this month. As soon as the corn glazes or until danger of frost is at hand.

If your farm needs more equipment next summer, mention that fact to the dealer or your association now and so be sure of a supply.

If cabbage heads begin to crack bend them over, so as to break the roots on one side to check growth.

What about those burdocks around the fences. Take the wagon and a good axe and gently lead them to the cremation.

Seeding of old meadows or pastures can be done now. If possible run the manure spreader over the meadow at the rate of 3 or 4 tons to the acre at the same time.

Winter rye is a good crop to consider this fall. Sow fairly early but not too early so it will joint before freezing. It yields as high as 50 bushels to the acre.

With the Horses

Keep indoors out of the flies in daytime all idle horses.

Clean out and whitewash all horse stalls now that the summer is over.

In spite of tractors, the horse is going to be worth money. Take care of them and the colts.

With the Dairy

Clean and whitewash all stables.

What about your water supply? Is it working well?

Keep the cow but only the good cow. Do not sacrifice your herd.

Consider the mechanical milker. It is certainly saving much labor.

Read Burnaby's article in this issue for planning your herd business next year.

Do not neglect the cleaning of the separator and milking machine regularly.

With the Beef Cattle

Market animals as soon as they cease to put on flesh.

Save all the feeding stuffs from your own farm that you can.

Attend your fall fair and show your animals if you can do so at all.

Do not forget the salt regularly—good water and shade are very important.

In weaning the calves, it is well to

establish them in a meal ration before hand.

Keep all breeding animals ready for sale at any time and take a price that will pay.

Send all scrub pure-breds to the butcher. Do not sell any old animal because it has a pedigree.

Cattle this year are high. Not so much money is being made on grass cattle as last year but they look good yet.

Among the Sheep

Buy a vigorous good ram for your flock.

Wean all lambs now and separate the sexes.

Turn the old ewes into a good pasture to get ready for the butcher.

Keep your rams inside good fences and so protect your neighbors' flocks.

High prices demand every attention to wool and mutton producers this fall.

Cut and burn all burdocks and hounds tongue burrs around your fences and in your fields.

Among the Hogs

Keep all pens clean and cool this month.

$18 a cwt. is surely a temptation.

Hog feeding is going to pay well. Take good care of the sows.

Read the cost experiments in the live stock section of this issue.

Feed fruit refuse, pumpkins, roots, and let them have a grain field stubble run if possible.

Storing Vegetables

To obtain the highest quality in vegetables, practically all must be harvested at the proper stage. Most all varieties are edible over a considerable period, but are of the highest quality only at certain stages. For example, beans are best before they become woody and develop strings, lettuce before it becomes bitter and tough. With but few exceptions, vegetables are of higher quality while young, and for home purposes can afford to sacrifice something in size.

For winter storage, such vegetables as the root crops, beets, carrots, turnips, winter radish, kohlrabi, rutabaga, parsnip, and salsify are usually pulled from the ground, though digging is usually necessary with long rooted varieties such as parsnip and salsify, in order that the root may be obtained whole. This is important. Bleeding, with loss of moisture and consequent shriveling, will otherwise take place. Care must be taken in removing the tops not to cut too closely. One-half to three-quarters of an inch from the root is the proper distance. The stems will then shrivel and fall off, with no chance of bleeding.

THE GLUTEN OF BREAD

Continued from page 69

in cells nearer the surface, until those just under the bran contain as much as 16 or 17 per cent. Unfortunately, when ordinary white flour is milled, the richest gluten cells are thrown out with the bran and what is in many ways the most valuable part of the grain is thus eliminated. Hence the great superiority, as a body-building food for man, of war bread or any whole-wheat bread in which much is not all of the bran is included.

The Wonderful Mission of the Internal Bath

By C. G. Percival, M.D.

Do you know that over five hundred thousand Americans and Canadians are at the present time seeking freedom from small, as well a serious, ailments, by the practice of Internal Bathing?

Do you know that hosts of enlightened physicians all over the country, as well as osteopaths, physical culturists, etc., etc., are recommending and recognizing this practice as the most likely way now known to secure and preserve perfect health?

There are the best of logical reasons for this practice and these opinions, and these reasons will be very interesting to everyone.

In the first place, every physician realizes and agrees that 95 per cent. of human illness is caused directly or indirectly by accumulated waste in the colon; this is bound to accumulate, because we of to-day neither eat the kind of food nor take the amount of exercise which Nature demands in order that she may thoroughly eliminate the waste unaided.

That's the reason when you are ill the physician always gives you something to remove this accumulation of waste before commencing to treat your specific trouble.

It's ten to one that no specific trouble would have developed if there were no accumulation of waste in the colon—

And that's the reason that the famous Professor Metchnikoff, one of the world's greatest scientists, has boldly and specifically stated that if our colons were taken away in infancy, the length of our lives would be increased to probably 150 years. You see, this waste is extremely poisonous, and as the blood flows through the walls of the colon, it absorbs the poisons and carries them through the circulation—that's what causes Auto-Intoxication, with all its pernicious, enervating and weakening results. These pull down our powers of resistance and render us subject to almost any serious complaint which may be prevalent at the time. And the worst feature of it is that there are few of us who know when we are Auto-Intoxicated.

But you never can be Auto-Intoxicated if you periodically use the proper kind of an Internal Bath—that is sure.

It is Nature's own relief and corrector—just warm water, which, used in the right way, cleanses the colon thoroughly its entire length and makes and keeps it sweet, clean, and pure, as Nature demands it shall be for the entire system to work properly.

The following enlightening news article is quoted from The New York Times:

"What may lead to a remarkable advance in the operative treatment of certain forms of tuberculosis is said to have been achieved at Guy's Hospital. Briefly, the operation of the removal of the lower intestine has been applied to cases of tuberculosis, and the results are said to be in every way satisfactory.

"The prnciple of the treatment is the removal of the cause of the disease. Recent researches of Metchnikoff and others have led doctors to suppose that many conditions of chronic ill-health, such as nervous debility, rheumatism, and other disorders, are due to poisoning set up by unhealthy conditions in the large intestine, and it has even been suggested that the lowering of the vitality resulting from such poisoning is favorable to the development of cancer and turberculosis.

"At the Guy's Hospital Sir William Arbuthnot Lane decided on the heroic plan of removing the diseased organ. A child who appeared in the final stage of what was believed to be an incurable form of tubercular joint disease, was operated on. The lower intestine, with the the exception of nine inches, was removed, and the portion left was joined to the smaller intestine.

"The result was astonishing. In a week's time the internal organs resumed all their normal functions, and in a few weeks the patient was apparently in perfect health."

You undoubtedly know, from your own personal experience, how dull and unfit to work or think properly, biliousness and many other apparently simple troubles make you feel. And you probably know, too, that these irregularities, all directly traceable to accumulated waste, make you really sick if permitted to continue.

You also probably know that the old-fashioned method of drugging for these complaints, is at best only partially effective; the doses must be increased if continued, and finally they cease to be effective at all.

It is true that more drugs are probably used for this and all other human ills combined, which simply goes to prove how universal the trouble caused by accumulated waste really is—but there is not a doubt that drugs are being dropped as Internal Bathing is becoming better known.

For it is not possible to conceive until you have had the experience yourself, what a wonderful bracer an Internal Bath really is; taken at night, you awake in the morning with a feeling of lightness and buoyancy that cannot be described—you are absolutely clean, everything is working in perfect accord, your appetite is better, your brain is clearer, and you feel full of vim and confidence for the day's duties.

There is nothing new about Internal Baths except the way of administering them. Some years ago Dr. Chas. A. Tyrrell, of New York, was so miraculously benefited by faithfully using the method then in vogue, that he made Internal Baths his special study, and improved materially in administering the Bath and in getting the result desired.

This perfected Bath he called the "J.B.L." Cascade, and it is the one which has so quickly popularized and recommended itself that hundreds of thousands are to-day using it.

Dr. Tyrrell, in his practice and researches, discovered many unique and interesting facts in connection with this subject; these he has collected in a little book, "The What, the Why, the Way of Internal Bathing," which will be sent free on request if you address Chas. A. Tyrrell, M.D., Room 354, 163 College Street, Toronto, and mention having read this in The FARMER'S MAGAZINE.

This book tells us facts that we never knew about ourselves before, and there is no doubt that everyone who has an interest in his or her own physical well-being, or that of the family, will be very greatly instructed and enlightened by reading this carefully prepared and scientifically correct little book.

The Credit Man

EVERY big house, every well-ordered business concern doing big business with many customers spread over a wide territory, has a credit-man—someone who passes upon credits and watches customers' accounts. Perhaps this man is a principal. Perhaps he is an accountant. Perhaps he is an out-and-out Credit Man

This man must keep himself informed; must watch markets, market tendencies, general business conditions and world movements, because these have a direct or indirect effect on credits.

Also, this man, if he has the right sort of mind, sees how the purchasing department of the business with which he is connected is related to the broad world of finance. He sees, for example, how supplies and prices of raw material have their swift effect on the commodities his firm deals in; and he is guided, in his counsels, by this knowledge.

The worth or value or earning-power of this credit man can be made greater by his faithful reading each week of

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Investments and Insurance

For the Farmer

The Farmer as an Investor

This is the first of two articles on the investing of moneys. At this time of the war when security is the greatest consideration, the farmer with funds to invest must look around for the safest places at the largest rates. The next will appear in October —EDITOR.

TO *save* money is only one-half of the prudent man's preparation for a rainy day; to invest wisely what he has saved is the other half. To hide one's savings in an old iron kettle in a hole in the ground underneath the wood pile may be a form of saving, but it is bad investment. It is like shutting a horse in a box stall and not working him, lest he catch, say, anthrax. The money invested in the horse must be given employment—the horse must be given an opportunity to earn. So with the money which by self-sacrifice and industry a man and his wife may be able to lay aside. It must be set to work. It is as much a servant as the hired man. A sum of money kept idle—unless it is to provide for current running expenses and day-to-day emergencies — is like the horse locked in the stable all day long, or the hired man told to do nothing lest he make a mistake in trying.

A merchant hires a clerk, a woman engages a servant, a farmer hires the threshing gang—and each knows how to employ these respective servants. *The employment of money, however, except in its day-to-day uses, gives trouble to ninety-nine men out of every hundred.* Dentists and doctors, who are usually intelligent, and well-informed men, and who have generally the opportunity to study investments at close range, are notoriously bad investors. Doctors are known to the unscrupulous promoters as easy victims in wild-cat mining companies, or oil wells, or other speculative transactions. Many merchants whose skill in buying and selling has enabled them to make large profits, lose their surplus profits, steadily and consistently, by rash ventures in real estate. *Many skilled farmers, careful husbandmen, shrewd judges of the immediate things affecting the production of crops, lose their savings by buying stock in ill-founded enterprises.* Merchant, housewife, farmer—practically every class in the community, may master the ordinary problems of their particular business; but of money, the most obedient and the most powerful of servants, they are but poor masters. The hundred dollars, or ten thousand dollars which might well be *hired out*, that is to say, *invested* at a good "wage," or rate of interest, is either risked foolishly, or, because its owner has had losses or has seen other men's fortunes wiped out, is buried *in an old iron kettle in a hole in the ground, underneath the wood-pile.* Store-keeping, house-keeping, farming or any other thing of skill is considered easier than investing.

CITIES CENTRES OF INVESTMENT

The great centres of investment are the cities, and because the farmer is inconvenient to the city, or not well acquainted with its methods, he is at a disadvantage, which only thought, study and general quickness of observation can overcome. Very often, because of this the farmer-investor makes his investments locally. He lends money to his neighbors on their notes. He takes a mortgage on a farm. He goes to the nearby country town and there entrusts his funds to a private banker, to be let out in such investments as the banker thinks are sound. It may be that all his savings are placed in the savings bank. Such are the chief local places of *investment.* The farmer may, it is true, be able to estimate the honesty and earning-capacity of the neighbor he lends to; or sufficiently skilled in judging the worth of farm land to know just how much is wise to invest in any one mortgage. He may be a life-long acquaintance of the private banker. He may have means of assuring himself that the bankers' methods of operating are safe. He may be content, for the sake of safety to leave his funds earning three per cent. in the local branch savings bank —at about three-fifths of the fair rate of interest on a sound investment.

But it is the greater outer-world of investment that must ultimately be faced and understood by the great majority of men with savings for which to find employment, and to this realm of business, men continue to turn for opportunities to invest their funds.

One popular investment for the farmer is undoubtedly the mortgage corporation debenture; so popular is it, in fact, that we know of one mortgage corporation who has over $3,000,000 worth of its debentures placed with the farmers of Ontario alone. These corporations in Ontario are organized for the very purpose just mentioned. They are controlled by many of our leading business men, who, naturally, with their large experience of financial affairs, are peculiarly fitted for this duty, and have, through their wide business connections, exceptional opportunities for securing sound investments. Besides this, these corporations have to register under the Loan and Trust Corporations Act, and are under the supervision of the Provincial Government, which publishes yearly a statement of the position of each corporation. To show how highly companies registered under this Act are thought of by the Government, it is well

to know that by special provision in the Ontario Insurance Act, 1914, the surplus insurance funds and reserve funds of all provincial insurance corporations may be loaned or invested in these securities, and that in a sub-section of the same Act, the uninvested money of these companies must be deposited, and in only three classes of securities, Post Office Savings Bank or chartered banks of Canada, or with a company registered under the Loan and Trust Corporations Act, in which mortgage corporations are included.

This is, no doubt, a time to be cautious. But it is possible to be over-cautious. There is no reason why a man should only get 3 per cent. for his money, when he could equally easily, and equally safely, obtain 5 per cent. Mortgage corporation debentures, at the present time especially, form an ideal security for idle money. Interest at 5 per cent. is paid to the minute, in cash, at the local bank. The principal is paid upon the date agreed upon. The busy or inexperienced investor has no worry in watching values and markets. His security never shrinks. It is not necessary, in order to secure a certain 5 per cent. for your money to tie it up for fifteen or twenty years. Mortgage corporation debentures are issued for a period of years to suit the convenience of the investor.

INSURANCE

The Policyholder and Railroad Bonds

It is unfortunate that the general public takes so little interest in what might be termed matters of high finance—the financing of railroads, the management of big corporations, etc. The average man has refused to take more than a cursory interest in such matters because he feels that it is of little concern to him. He is mistaken. As a matter of fact, he is a shareholder in the railroads, and, in a sense, also a bondholder in the big corporations.

Look at it this way. The big insurance companies and the banks are in no very unreal way the owners of industrial corporations and railways. They do not hold control of the stock, but they are the ultimate owners in the sense that they hold or control big blocks of securities. It was recently given out in the United States that railroad securities in that country were held as follows: Life insurance companies, $1,550,000,000; savings banks, $840,000,000, marine and fire insurance companies, $679,000,000 trust companies, $865,000,000. Figures are not available at the moment for Canada, but there can be no doubt that the securities are held here in somewhat the same proportion.

In turn, the insurance companies are, in a certain sense owned by their policyholders and the banks by their depositors. It is interesting to quote from a recent speech by J. W. Stedman, of the Prudential Life Insurance Co. (American), delivered, as a matter of fact, before the Interstate Commerce Commission, when the discussion of higher freight rates was on:

"I want to say at the outset that I represent the Prudential Insurance Company of America, which is a mutual con-

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Use Foresight

"The time to prepare for a rainy day is when the weather is fine."

That is a truism. Yet many a person who would never for a moment dispute so obvious a piece of common-sense forgets that the time to prepare for a financial "rainy day" is NOW, and that the way to do so is by means of Life Insurance. To the great majority Insurance offers the only way within their reach of taking care of the future—not only the future of dependent ones, but their own as well.

The Great-West Life Policies provide such Insurance on exceedingly attractive terms. Premium rates are low and profit returns to Policyholders are high. Personal rates and explanations will be gladly given on request. State age.

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Canada Must Have Greater Agricultural Production.

Canada Needs Men Trained in the Best Agricultural Practices.

You will be of greater value to your country and to yourself if you acquire all available information regarding your business as a farmer.

You can obtain this information during the Fall and Winter months at the

Ontario Agricultural College
Guelph

The College Term. The college opens September 21st and closes April 12th. This is convenient for most farm boys, as the hardest work of the summer is completed before the commencement of the term and students can return to their homes for the spring seeding.

Courses. The Two-Year Course is particularly designed for young men intending to be good practical farmers. It includes studies which are of practical value in all the work of the farm. The Four-Year Course for the degree of B.S.A. is a two-year continuation of the two-year course.

Expenses. In order to encourage young men to attend the college, the fees are fixed at the lowest possible figure. Board $4.00 per week—Tuition Fee $20.00 per year.

Public School Education is Sufficient for Admission

College Opens September 21st

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Calendar sent on application

E. A. A. GRANGE, V.S., M.Sc., Principal

cern and is owned by over 11,000,000 policyholders scattered all over the United States. Ten million of these policyholders the members of hard-working families of moderate means; over 40 per cent. of the assets representing their good money consists of railroad securities, recognized by the various States in which we do business as legal investments for life insurance companies, having a par value of $184,000,000. Feeling myself as one of the future trustees for these people who, all unconsciously, may face a large financial loss, I am glad to see this opportunity."

The man on the street who has savings in the bank and life insurance policies does not reason out their connection for himself. He believes that what he holds is a policy or a pass book; he does not see that in reality he holds a financial interest in railroad and other bonds.

Rebates Illegal

The Dominion Insurance Act expressly prohibits the granting of rebates or special terms, but exercises jurisdiction only over Dominion companies and foreign companies licensed under the Act. By making rebates and special terms an offence under the Criminal Code, as is proposed, the penalties provided will apply to all companies doing business in Canada, regardless of whether they have been incorporated under Dominion or Provincial Acts. The penalty for the first offence is double the amount of the annual premium, but not less than $100; for the second offence double the annual premium but not less than $200, and for the third offence, double the annual premium and not less than $500.

The U. S. Federal Loan Banks

The Federal Farm Loan Board of the United States has just completed its first year of service. During the year the co-operative banking system for farmers has been put into complete operation in every state and loans to farmers are now being approved at the rate of nearly one million dollars a day, says the *Breeders' Gazette* About twenty-five farm loan associations are being chartered daily, each association representing nearly $50,000 of loans.

The greater part of the year of organization has been consumed with the tasks of organization and the establishment of a flat interest rate of 5 per cent. on farm mortgages in all parts of the United States. The Federal land banks began lending money late in the spring and in the two and a half months just closed more than 800 farm loan associations have been chartered, representing total loans of approximately $40,000,000. The average number of farmer-borrowers in each association chartered is eighteen and the loans average about $2,300 in size. Additional farm loan associations now being organized throughout the country will run the total of loans applied for this year far beyond the $100,000,000 mark.

According to testimony compiled at the time of the consideration of the Federal Farm Loan Act, the total volume of farm mortgages in the United States is nearly four billion dollars, and the average interest rate 7.4 per cent. If all of these mortgages are transferred to the Federal Farm Loan System at 5 per cent. the re-

sult will be an annual saving in interest charges to the farmer of nearly $100,000,000 annually.

All mortgages under this act are made on the amortization plan and run generally for thirty-six years. The farmers make annual payments equal to 6 per cent., 5 per cent. paying interest and 1 per cent. being applied on the principal. The 1 per cent. applied on the principal annually wipes it out at the end of thirty-six years. The borrower has the right to pay all or any part of the mortgage after it has run five years.

This great volume of capital which is being loaned to farmers is procured by the sale of bonds to investors. As banks lend money and take farm mortgages in return they issue bonds against the mortgages and sell the bonds to investors. These bonds bear 4½ per cent. and are free of all taxation, being declared by the law "instrumentalities of the government." These bonds are being disposed of rapidly at 101⅛. It is expected that the issue of these bonds within a year will exceed $100,000,000 and may reach $150,000,000.

The margin between the 4½ per cent. which the bonds yield and the 5 per cent. paid by the farmer is used to defray the expenses of the Federal land banks. The law permits 1 per cent. to be employed for this purpose but the Federal farm loan board believes they can be operated on half that amount.

The loans being made are very evenly distributed throughout the nation. Farmers in States of high land values where interest rates have been low in the past are making use of the new system to an extent greater than was expected. During July, for instance, loans to the amount of $536,400 were approved in Indiana.

THE ELECTRIC FAN

Electricity at different times has been tried as a crop raiser, and the spurt in farming owing to the world shortage and the great war is again bringing it to the fore. Across the Atlantic the success of electricity for increasing the yield has been so strikingly demonstrated by British farmers that the British Agriculture Development Commissioners are now taking steps to have it utilized on certain large agricultural holdings. And the British Treasury has granted large sums to enable the daring innovations to be put to a thorough test extending over four years.

Electricity as a crop raiser is no mere hairbrained experiment as many scientific agriculturalists assume. The practicability of improving crops, and this at a gratifying profit, has been satisfactorily achieved.

The idea now being utilized by the British Agriculture Development Commissioners is to make use of ionized air, that is, air undergoing electrolysation, produced by means of an electrical discharge. The method involved is to stretch over the fields a number of thin wires on poles something like telegraph poles but high enough to enable the ground to be worked.

These wires are supported on the usual insulators secured to the posts in long parallel spans about thirty feet or so apart. Electricity is used at a strength of one hundred thousand volts, a constant current being maintained. The charge fizzes off from the wires with a sound that is sometimes audible, and with a glow

Continued on page 85

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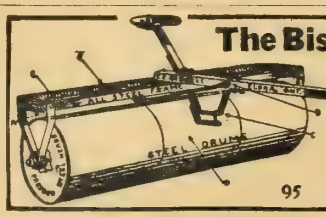

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The Fruit Grower

The Home Fruit Orchard

Many readers of the FARMER'S MAGAZINE will be planting fruit trees during the next year. It is well to study location and soil of your orchard first of all, then varieties to plant, and time to plant. Too many farmers are allowing their small orchards to go to pieces from scale so that there seems to be some justification for the remark that only the man who intends to make his living from fruit should raise it. He is the man who will take care of it. Nevertheless it would be a pity and a poverty indeed for any farm to be minus some choice fruit trees, hardy in its particular location.

In the matter of apples, it is well in a commercial orchard to select only 4 or 5 varieties for planting. But for a farm home it is desirable to have a variety following each other with little break between. Of course this means a couple of trees of each variety so chosen. Here is the way one Ontario farmer orders for his own use. Summer apples—Yellow Harvest, Yellow Transparent, Duchess, Astrachan, and Alexander, one of each. Fall varieties—Wealthy, Snow, McIntosh, St. Lawrence, and Colvert, one of each. Early winter—Blenheim, Tolman Sweet, King, and Greening, one of each. Late winter—Northern Spy, Baldwin and Stark, two of each.

In all he will have 20 trees or half an acre, and he can always dispose of any surplus fruit that he may have, to friends or to the city market. There is nothing quite as satisfying as to have plenty of eating and cooking apples on the farm.

In the matter of other fruits, there is also a like provision in his garden.

In cherries there are three trees of Large Montmorencies, a couple of Early Richmonds a Reine Hortense (semi-sweet) and a Pickering sweet cherry.

In pears, he has two trees of Bartlett, one Clapp's Favorite, two Lawrence winter, a Sheldon and a Seckel.

In plums, he planted an Imperial Gage, a Lombard, an Abundance, a Burbank and a Saunders.

He has also two Russian Mulberries, an apricot, a few grape vines, Cuthbert and Herbert red raspberries, blackberries, black currants, gooseberries and a small garden plot free for vegetables.

Of course it takes time to attend to all these, but if they are planted in order so that the orchard can be worked with horses, our bushes are kept from among the trees, much of the bother is overcome. A small barrel sprayer, a pruning saw, a couple of step ladders and an extension ladder make the work easy. It is not so big a task as it looks. And the pleasure of fresh fruits more than offsets any troubles. Occasional plantings will have to be made as the trees die or get old.—E. E. G.

Seedlings Better Than Parent

Out of the total of 28 seedling trees from Elberta peaches at the Vineland Experimental Station 16 have fruited, says E. F. Palmer, and of these 16, fifty per cent. are better fruit than the Elberta itself. One particular seedling is worthy of a further trial.

Protecting Trees From Rabbits

So many trees in Canada are lost each year from having their bark eaten off by rabbits that the experience of Julius Smith, of Kansas may be worth something.

We tried wrappers of various sorts, said he. We bought a number of kinds of paper, tarred and building papers. But these papers would be whipped from the trees by the first heavy dry winds. Then we bought and shipped a long distance, elm wood wrappers and tied these on with wire. But they, too, slowly succumbed to the wind.

Then we stumbled into an experiment that has proven successful and economical, and we believe, will solve the difficulty for many tree growers. Finding the ravages of the rabbits increasing around the outside of a forty acre young orchard, I put my young son to wrapping the two outside rows with newspapers. He was a boy who invented his own methods of doing work, and usually proved his thoughts worth while. In putting on the newspapers he crumbled them up, so that when tied on the trees, they were somewhat bulky with several thicknesses of paper, and of uneven surface, but little exposure that the wind could catch and tear loose. Besides, the bulkiness of the paper made a fine support to the string, so that it never cut through the paper, but held it very firmly in place.

We were delighted at the result. The rabbits let the paper absolutely alone. Some college students facetiously said, it was because we had used newspapers, and that the rabbits thought we were trying to teach them to read, and they resented this new use for their brains, and so boycotted the orchard using these newspaper wrappings.

Fruit Growing in New Brunswick

I think it was in A.D. 1878, a small exhibit of apples was made by the writer at the Farmers' and Dairymen's Association held in the City of Fredericton. The exhibit consisted of Golden Russets, Northern Spy, R. I. Greening, Bishop Pippin, Tolman Sweet. These were tak-

en from my first plantings, made in A. D. 1866. The exhibit, although small, proved quite interesting, as it was not generally supposed that these commercial varieties could be grown in the Province. Indeed, the belief was so strong that they could not be grown, that a gentleman from the County of Carleton publicly expressed his doubt that the samples on exhibition were grown in the Province, but were grown elsewhere. Several of the writer's friends who were present at the meeting, at once arose and vouched for their being grown in the writer's orchard. The person expressing the doubt, at once apologized, and stated he was much surprised, as the largest nurseryman and greatest orchardist in the Province had stated that the Winter varieties could not be successfully grown in the Province.

There is no question but that opinion expressed by so high an authority had much to do with retarding the culture of the valuable commercial varieties we are now so successfully growing. The effect, however, of the small display worked wonders. The late Mr. Gilman of York County, Mr. Henry Wilmot of Stanbury County, Mr. Colpits of Albert County, were among the first to embark in the cultivation of winter varieties, quickly followed by quite a large number of farmers along the valley of the St. John River. As the newly planted orchards of these varieties came into bearing and gave promiseing results, confidence in the ultimate success of the enterprise became more thoroughly established.

Slowly, but surely, the apple has won its way, the experimenters were satisfied and the results of an exhibit of apples sent by the Department of Agriculture to the Royal Horticultural Society of England Exhibition, at which the Province was awarded five special prizes, seemed to clinch the idea that not only could we grow good fruit, but when brought into competition with fruit from other countries, we could win out. The creation of an Horticultural Department in connection with the Department of Agriculture was a great step towards increased development, and has borne rich fruits. The organization of the Fruit Growers' Association has also been a great help in our developments. The last ten years have shown great progress, and the results of the last year's Apple Show is the best possible evidence that our people have not been asleep.

Considering that it takes from 8 to 12 years to bring a young orchard of winter varieties into bearing, it would seem that in the 38 years since the first exhibit of a few plates at the Farmers' meeting at Fredericton, previously referred to, we have not done too badly. It is quite true that it has not all been sunshine. Many farmers have been badly fooled with trees bought from agents, who were unreliable; others have not given the young trees the care that was absolutely necessary, and many discouragements have had to be met. Now, however, greater care is exercised. Our horticultural publications, prepared by experts of the Dominion and Provincial Governments, are sent broadcast over the country, and can be had for the asking, and hence we need not go it blind. In my judgment, great success awaits those who are willing to adopt modern methods and up-to-date culture in orcharding in New Brunswick.—S. L. Peters.

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Practical Field Methods

A SCARBORO FARMER

"You'll reserve this margin for seed?" I queried of one of Ontario's best grain growers.

"Not if I know it," came the quick reply. "I have done that sort of thing before, but I'm wiser now."

"But," I protested, "this is the best patch of grain in the field, and I always thought farmers sowed the best grain they could get their hands on."

"Yes," came the reply, "best grain that ranks up well in the show business is not always the sort that I want for seed purposes. Take this strip of grain for an instance. It grows along this mangel patch. I have kept the ground well scuffled and here, you see, is as fine a dust mulch as anyone could wish for Besides the mangel soil is fine and rich, and its richness has a certain effect on the oats. Now these oats have done particularly well because they have had a specially good chance. In a way, they are hot house plants, but in reality they are no stronger *constitutionally* than the oats in the other part of the field. Indeed, I think that their extra size has weakened their constitution. At least, I have been disappointed when I have sown seed grown under such conditions."

"Then I suppose you go to the best part of your field and set apart that grain for your seed?" I suggested.

"Not exactly, not by a considerable sight," was the quiet reply. That would be making a mistake similar to the other mistake. No, when I have found a grain that suits my farm, *I give a good deal of study to the field I am going to sow next year.* Then I study the field I am going to get my seed from and make a selection from it of seed that is as nearly representative of the field I am going to sow as I posibly can select. From this seed I select the best kernels I can get. though those kernels are not necessarily the largest. What I want is the kernels that are plump and vigorous and that have grown in the field in competition with other grain."

"What about the field that some set apart especially for seed growing purposes?" I continued.

"That's one way of getting clean seed," was the reply. "But I am afraid that the results as far as vigorous seed is concerned, are likely to be unsatisfactory. The seed is clean and large, but it has been grown under specially favorable conditions, and unless the conditions are repeated where the seed is sown, the results are likely to be below par. I do not believe in the seed plot for that among other reasons."

This practical farmer has rediscovered the law that in seed acquired properties —especially rapidly acquired properties —are not transmitted. "If you would make the hill you must lengthen the grade," is a maxim well known to engineers and is one that seed producers are commencing to apply in their specially delicate and difficult task.

Two things every farmer can do. He can study conditions and sow seed that has done well under similar conditions. By persistently following this practice, a very few sowings will give him a seed that will produce results that are surprising and gratifying

Take the matter of selecting seed corn for another instance. It will not do to go to one's patch and select from it the best ears without regard to the conditions under which those ears have been grown. Both the field to be planted and the field from which the seed is selected must be studied. It is not satisfactory to set out a patch planted far apart in order that fine ears may be developed for seed purposes. It is better to go to the part of the field that corresponds with the field to be planted and from this part of the field make a selection of ears that have done best in competition with other corn plants. As soon as they are dry enough they should be hung up where moisture and vermin cannot harm them and where they will not be exposed to extremes of heat and cold. When an opportunity presents itself of preparing the seed, an inch or so should be broken off each end of the cob and only the middle of the ear retained for seed purposes.

Seed is one element in successful crop production and a very important element it must ever be. Yet it is but one element. Conditions are to be considered quite as much as anything else. There is no royal road in crop growing that leads to good results apart from very hard thinking and care in getting the soil into good condition. Constant selection of seed in view of conditions together with constant care in improving the drainage and the fertility of the land along with constant warfare on weeds, will go a long distance towards ensuring a satisfactory crop every year and a bumper crop when the conditions of moisture and heat are favorable.

Harvesting Beans

The harvesting of beans demands attention on many farms in Canada this fall. If the weather is such that they can be thoroughly dried in the field, they can be stacked outside, if well covered with hay, brought down well over the sides, as beans alone will not turn water. It is advisable to get the beans dried without many wettings, and sometimes an old barn floor or mow can be utilized.

If the pods ripen very unevenly do not wait for all to ripen before pulling the beans, because then the first to ripen

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would be very apt to shell and part of the best of the crop wasted. Green pods, if not too numerous, will be likely to do one of two things in the stack: either they will ripen up, or they will shrink so the beans in them will pass thru the screen. If the crop is threshed from the field these green pods will go thru with the straw and do no harm. Care must be taken, however, not to stack beans in large stacks when there are very many of these green pods or when the leaves and stalks are green and full of moisture.

Some farmers use the corn cultivator, which can have turned kinks put on so as to cut the roots of two rows and turn them to one side. A hay rack on a truck or wagon can be driven between these rows and the beans thrown on from both sides When the haul is short, a sufficient load can thus be put on without having a man on the load, an advantage when they shell easily.

There are also on the market small bean threshers of the proper size for the individual farmer, or a community. If the weather conditions will permit and the time can be spared from other work, it is best to thresh the crop as it comes from the field. This will do away with the necessity of stacking and its possible injury and loss; and ordinarily the price is not much lower at that season than later on. Of course, there are exceptions to this rule, with beans as well as other crops, but it does not pay to take unnecessary chances. The crop does not have to be marketed as soon as threshed, but it will be ready to put upon the market at short notice if the price should suddenly rise. It could be hauled when the weather would not permit of threshing.

Care must be exercised, however, in storing beans which have not been stacked before being threshed as they will go thru a "sweat," more or less, in the same way that grain does. They must be inspected every two or three days by running the hand down into the pile, or the middle of the sack, to see if there is any indication of heating. At the first sign of such a condition they should be shoveled over or poured from one sack to the other, as a musty smell will develop very soon.

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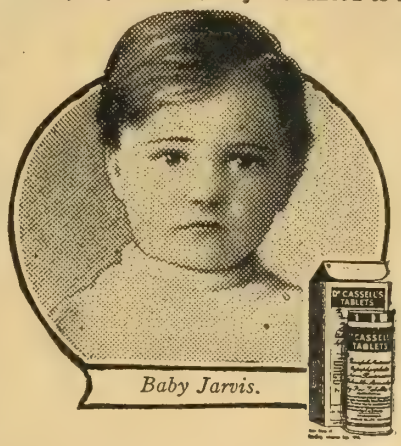

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Flies and Weevil

Three Important Insect Enemies of the Wheat Crop

By ARTHUR GIBSON

Chief Assistant Entomologist, in charge of Field Insect Investigations, Department of Agriculture, Ottawa.

THERE are several insect enemies of the wheat plant which have caused enormous damage to the crop in certain years. It is important that farmers should be able to recognize the injury by such serious pests as the Hessian-Fly, the Western Wheat-Stem Saw-fly and the Wheat Midge.

THE HESSIAN-FLY.

The Hessian-fly in some years has been responsible for much loss to wheat in Western Ontario and the eastern provinces and also in Manitoba and Saskatchewan. In 1899 the loss to the crops in Manitoba alone was estimated at from 10 to 30 per cent.

In springtime it is almost impossible to distinguish Hessian-fly injury from that of the various wheat-stem maggots with which it is generally associated, says Criddle in Bulletin No. 11. The young plants, often containing but three or four leaves, at first show an unusual bluish tint, while the central shoot is stunted; later they become yellow at the tips and eventually either die outright or survive by throwing out new shoots to take the place of those killed. In years of severe infestation, large patches of grain, more often in the lower spots, will be practically destroyed and the whole field will have an uneven look as if the grain had failed to germinate. A closer inspection, however, reveals the dead plants with the puparia in position among the leaves below the ground.

The injury from wheat steam-maggots, though very similar to Hessian-fly attack, is usually distinguished by the central shoot being killed and a single outer leaf remaining green. The puparia, too, are quite different. In the summer brood of the Hessian-fly, injury is nearly always just above the second joint, though it may occur at the first or third joint. Usually the stem, by the characteristic bending over, at once reveals the nature of the injury. This is a very constant character during late July and early August. Other insects may weaken the straw sufficiently to cause it to blow over, but the breakage is seldom just above the joints. Examination of the straw at this spot will always reveal fully developed larvæ or flax seeds if the work is that of the Hessian-fly.

HOW TO CONTROL.

In the Middle West the ploughing under all infested stubble land not less than five inches deep, between August 15 and the middle of May of the following year is one of the best known remedies. Such an operation is also applicable in Ontario and the eastern provinces, but the ploughing in such districts should be done immediately after the crop is removed. The seeding of fall wheat should be delayed until what is known as the fly-free date. This period varies according to the locality and must be studied locally.

Fields of young wheat plants which in spring are found to be seriously infested with the well known flax seed should be ploughed down and the land seeded to corn, oats or other crop.

THE WESTERN WHEAT-STEM SAW-FLY.

In the prairie provinces this pest has caused very important losses to wheat. It is present this year in certain districts. The grub which causes the damage is yellowish-white in color and nearly half an inch long when mature.

Usually the first intimation a farmer has of Saw-fly injury is after a heavy wind or rain storm, when he finds his crops broken and bent in all direction, as if a hail storm had struck them, and indeed there are said to be records when hail insurance has actually been paid for damage that was in reality the work of these saw-flies. By cutting open the straws, however, and splitting them down through one of the joints the real nature of the injury will be revealed. The straw will show an unusual hollowness, having been eaten out, as a matter of fact, by the grub. In certain places there will be large quantities of dust left behind by the larva while tunnelling; still further exploration will discover the larva itself, which may be either above or below the break.

During period of comparative calm weather the stems remain standing much longer, and the injury may then escape detection until the grain is ready to harvest. Usually, however, it is cut by the larvæ some days in advance of the time considered suitable by farmers, and is, therefore, already lying thickly upon the ground when the harvester arrives.

Apart from these very obvious methods of recognition, determination is by no means easy. Early in the year the only method of detection one can suggest is to split the green straws, when the borings of the insect will be revealed. Towards the end of July, the heads are inclined to turn white, when the attack may be confused with that of the greater Wheat-stem maggot. In addition to the characteristic tunnelling, however, the straws generally turn blackish near the joints, thus revealing the identity of the insect within.

METHODS OF CONTROL.

As in the case of the Hessian-fly it is important to plough down infested stubble land to a depth of not less than 5 inches. This should be done between August 1 and June 1 of the following year. The soil should be thoroughly packed afterwards. As such native grasses, as the Awned Rye grass, Western Couch grass, Lyme grass, Reed Bent grass and Squirrel-tail grass, also harbor the grubs, it is advisable to cut the same so far as is possible between July 10 and August 1. If this is done the larvæ caught in the stems will be destroyed as the grasses die.

THE WHEAT MIDGE OR WEEVIL.

During the last year or two this insect, also known as the Weevil, has been complained of in the Provinces of British Columbia and Ontario. During the present season a number of complaints have been received from the latter province. It is to be hoped that this pest is not developing into the very serious enemy of wheat which it was about twenty years ago.

When the ears of wheat are seriously infested by the small orange-colored larvæ they assume a reddish tinge. If they are examined numbers of the larvæ will be found feeding on the forming grain, preventing it from filling out and thus giving it a shrivelled appearance.

The chief method of controlling this insect is to plough infested land deeply as soon as possible after the crop is removed. This will bury the larvæ, which leave the heads to pupate in the soil, to a depth sufficient to prevent the flies working their way through the soil. Chaff and other waste material known as *screenings* or *tailings* at threshing time should be gathered up and burned.

A field of Marquis Wheat that yielded in 1915 over 40 bushels to the acre in Sask. This field had been in wheat for 30 years.

R. C. Harvey of South Alberta has built a shearing shed and installed a machine system. Eight professional shearers from the United States are clipping from 1,200 to 1,600 sheep per day or 150 to 200 sheep per man, per day. The first lot clipped were one shear ewes and the average fleece weight was approximately eight pounds. Mr. Harvey had about 17,000 to shear, and 12,000 or 15,000 were brought in by local sheepmen. A total of 30,000 will be clipped at this shearing shed this season.

Beekeeping in 1918

While a maximum production of honey is of pressing importance in this war-food year, yet increasing the bees for next season must not be neglected. lected.

Roughly speaking, the bees that are in the hives at the commencement of the honey-flow gather the crop, while the brood builds up the colony for next year, unless there is to be another important honey-flow. This brood is very valuable for forming nuclei, because these, started early with a laying queen, or ripe queen-cell, will build up into strong colonies before winter. Increasing in this way with brood from strong colonies during the honey flow is the basic principle upon which an apiary can be quickly built up while at the same time an almost full honey-crop is secured.

In newly-formed nuclei containing brood in all stages there is always more or less desertion of bees and consequent death of the young brood and sometimes chilling and death of the older brood even when the nuclei are skilfully made by an experienced apiarist. Further, queens may not be immediately obtainable, or they may be lost in introduction. Robbing of the newly-formed nuclei has also to be guarded against, but during the height of the honey-flow only carelessness will cause this; towards its end, however, the danger of robbing grows so great that it is difficult to maintain newly-formed nuclei even when strong. Desertion may be checked by stopping the entrance with grass; the bees will make their way out when the grass dries and shrinks in about two days, but care must be taken to avoid overcrowding the confined bees, which would lead to stifling, especially in hot weather. A good way to overcome the loss of young brood is to place the brood over a queen excluder a week before its removal from the parent hive. This may be done in the ordinary course of relieving congestion in the brood chamber as a means to discourage swarming, a frame or two of empty comb or of foundation being placed in the brood chamber when the brood is raised.

All of these risks may be greatly minimized as follows: Have all the queens' wings clipped (this is not essential), and when a colony of a strain that it is desired to propagate swarms, move the parent hive to a new stand, and place the swarm in an empty hive on the old stand, the queen having been picked off the ground and placed in the empty hive. The swarm will return to the new hive at the old stand. The field bees will not join the swarm, and the super should be transferred from the parent hive to the swarm which will produce the crop of honey. The colony, now depleted of bees but rich in brood, is divided a week later into three to six nuclei, each nucleus consisting of two or three frames, containing brood and honey carrying two or three queen-cells containing queens soon to emerge with the adhering bees.

The beginner should be warned not to divide the parent colony into too many weak nuclei, but this fault may be rectified in the autumn by uniting. The ideal conditions for building up nuclei are a slow honey-flow throughout August and early September. Fortunately these are supplied in most Canadian localities by goldenrods, asters and buckwheat.

A Vast New Land Waiting for You

Settle in Northern Ontario

Opportunity awaits the man who will strike out to the rich, fertile land of Northern Ontario. Millions of acres of virgin soil obtainable at 50c an acre in some districts, and in others Free, are calling for cultivation. This land contains immense resources in timber, mineral, waterpower, fish, game and scenery, and is one of the greatest expanses of fertile territory in the world. This land calls for men to cultivate it; in return it will give health, comfort and prosperity. Thousands of farmers have responded to the call. How about you?

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Minister of Lands, Forests and Mines

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It costs you nothing to consult us as to the advantages of having a Greenhouse on the Farm. Write Dept. M., stating your requirements and we will gladly furnish you with costs, etc. All information FREE.

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LIMITED
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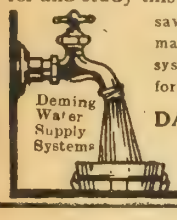
Factory: Georgetown, Ont.

Turn a Faucet—Don't Pump

Running water—one of the city's greatest conveniences—may now be had in every farm home.

Deming Bulletin No. F-1 tells how. Send for and study this free book—learn the labor-saving convenience and the ultimate economy. Deming water systems bring greater home comforts and easier working conditions



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50 two and three shear ewes
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These sheep returned over $5 each for wool during 1917. They are all pure bred with many of them registered. Write for prices.

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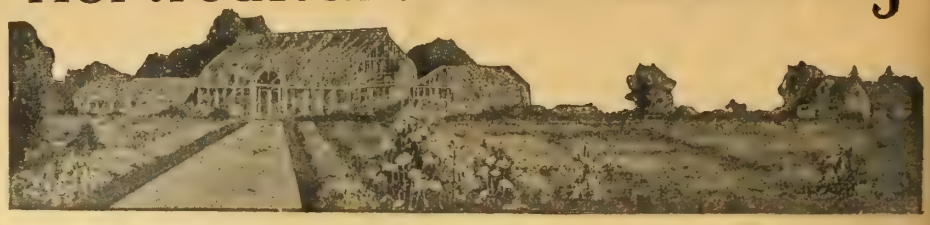
Horticulture and Gardening



Fruit Notes

Damson plums originated at and were named after Damascus.

The walnut is a corruption of Gaulnut, the nut of Gaul or France. As Gallea and Wallit both anciently signified Gaul, the transition from Gaul-nut to walnut was easy.

Apples were first cultivated in America in 1629, having been imported from England by the Governor of Massachusetts. Governors' Island, Boston Harbor, was given to Governor Winthrop in 1632, on condition that he should plant an orchard on it.

Apricot, formerly apricock, is from the Latin praecoqua, the name given on account of the fruit ripening before peaches. The apricot is a native of Armenia, being introduced in Europe in the time of Alexander the Great. It was first grown in England about the middle of the sixteenth century.

The Raspberry Patch

Life is more worth living in the hot and dusty days of harvesting when a cool drink of raspberry vinegar comes at the time work is the hardest and when a fine dish of berries helps out at supper time or as a dessert. And these aids to happy living are within the reach of every farmer who will spend even a limited time on a raspberry patch. Spring is the best time for planting, but the summer is the time to get ready for next year's yield.

As soon as the crop has been picked the old canes should be removed and the whole patch cleaned. It is best to go through the patch with a sharp hoe and to cut out all the weeds and canes that have come up between the clusters intended for next year's bearing. This hoeing should be done thoroughly. No part of the work will pay better than thoroughness in this regard. The tops of the remaining canes should be nipped off, the canes staked, and the whole patch liberally manured. The space between should be carefully plowed and the ground levelled with the hoe and narrow harrow. An opportunity offers during the late summer and autumn, the patch should be gone through with the object of destroying any weeds that may have developed.

The superstition persists that a raspberry patch must be changed frequently. This is a mistake. There are plenty of patches that have done duty on the same ground for fifteen years without sign of impairment. The fifteenth crop reaped on these patches has proven as good as the fifth or any other crop. The canes at this hour look as if the patch were good for another fifteen years. The secret of this is the care taken of the patch from the very outset. Only good canes were set out, and from the very first the clusters were kept distinct and no tramp or vagrant canes were allowed to crowd the bearers. All grass was pursued relentlessly till the ground was thoroughly clean. No manure was added that had not the weed and other seeds germinated.

When available, the patch is greatly benefited by an application of wood ashes. If the ashes are kept dry they may be applied with good effect in the autumn or in the early spring.

Miles of Onions.

On Point Pelee, Lake Erie, the land is given to the growing of onions, and one can see miles and miles of onions. This land is all what is known and reclaimed, having been until a few years ago entirely covered by water. Large dykes have been built and the water has been drawn from the land and pumped into the lake, so that the land now used for the growing of onions is several feet lower than the level of the lake.

Onions on Land 15 Years

My father grew onions on his same garden plot for fifteen years and the onions the last year were as good as they were at first. He believed that onions did better on the same ground. This was no doubt due to the soil being kept clean, and rich for he used to manure every season. He always sowed the seed in March just as soon as he could get a bit of frost out.—W. P.

Growing Winter Rhubarb.

Last fall, after hearing and then seeing a way of having rhubarb all winter, I got a box from the storekeeper, 6 x 4 feet, by 18 inches deep, and put it in the cellar. I then filled it with sandy loam on which I had grown potato onions last summer. Digging up some young strawberry rhubarb plants and putting them in the box, I watered them once a week from the cistern. The heat of the furnace made it grow like in a greenhouse, as it was near a big window.

We had enough to do three families last winter, and I intend to put in more this winter, as rhubarb sells so well in the city. It is always best to take young plants and set them out in the spring again. —A. E. Wilson.

Fall Blooming of Roses

Roses require liquid manure when the ground is moist. Many amateurs regard their roses as finished as far as quality is concerned when the first blooming is finished. This is a mistake, as the autumn display of many varieties is equal to the spring one; and a great deal to assist this can be done by cultivation and slightly cutting back the shoots that have borne the first crop.

THE ELECTRIC FAN

Continued from page 97

that is visible in the dark. Any one walking about below the network of wires can sometimes feel the effect on the hair of the head, and as if a cobweb is being drawn over the face.

In the course of the experiments, which Sir Oliver Lodge and his son have extended over a number of years, it has been computed that wheat crops increase from thirty to forty per cent. in yield through the use of the ionized air. The electricity does not act in place of manure but as a substitute for sunshine. Thus it was found only necessary to switch on the current in the early morning and in cloudy weather.

In the States arc lamps have been suspended over the crops, and burned at night to stimulate the crops, an increased yield resulting. In France and in Germany similar enterprises have been set on foot. But, no such satisfactory results have been obtained as in England.

Several plants similar to that devised by Sir Oliver Lodge have been laid down recently at different times in various localities of England, and, in every instance, successful results have been reported, the average increased yield with most crops being thirty per cent. As regards vegetables, potatoes especially, the ratio of increase is most markedly greater, the tubers grown being of immense size, their edible qualities remaining as good as ever.

The first cost of the apparatus fitted up on English farms is some fifty dollars per acre, and the yearly upkeep including labor and depreciation runs from ten to twelve dollars. On the other hand the additional profit has been stated to amount to forty dollars per acre, at the lowest.

Already progress has been made not only to bring down most materially the cost of the electrical plant but to have it so equipped that any 'fool on a farm' can handle it quite safely.—N. Tourneur.

With $20 live pork, who would not like a pig.

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Millions of dollars are lost by the use of inaccurate scales. It is to your interest to know that you are getting what you pay for. Every farmer has enough losses to pay for a good scale every year.

Fairbanks Scales

enable you to know that your weights are correct. Each scale is Government inspected and guaranteed absolutely accurate.

Fairbanks-Portable Platform Scale — should be on every farm, that you may know you are giving and receiving honest weight. It is especially well made, has heavy steel bearings, large platform and wide wheels — weighs up to 2,000 lbs. by ½ pounds.

Fairbanks Farmer Scale is a truck scale. Can be easily moved anywhere with or without a load, a drop lever relieves strain on bearings when loading and moving. Weighs up to 2,000 lbs. by ½ pounds.

No matter what kind of a scale you need, your local dealer can get it for you, or we will supply it direct.

Fairbanks-Morse Power Farm Equipment

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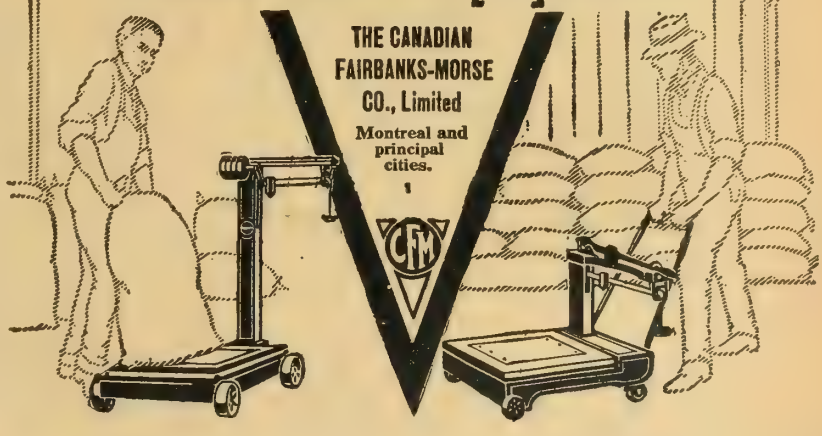
Montreal and principal cities.



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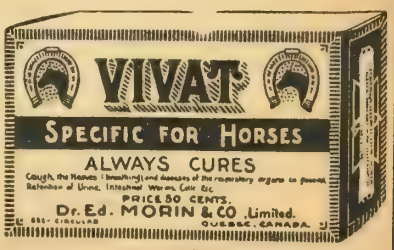
Omazon builds bone and muscle, tones up the system, purifies the blood and generally strengthens and invigorates. Stock fed on it are maintained in perfect condition—the best insurance against disease. It is a great aid in increasing the quantity and quality of milk in mare and cow, and when mixed with food cuts down the amount of grain required.

Vivat is a quick, safe and sure cure for Coughs, Heaves, Broken Wind and Diseases of the Intestines, Kidneys or Respiratory Organs. It is easy to administer and always effective. Used as a tonic it increases appetite and gives added vigor and endurance, being especially valuable for race-horses and those travelling and working hard.

Your merchant should be able to supply Omazon and Vivat. If not, write us direct.



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is a mineral paint combined with a germicide 20 times stronger than carbolic acid—a paint and disinfectant in one. Comes in powder form ready to use when mixed with water. Apply with brush or sprayer. Will not flake, blister or peel off nor spoil by standing. No disagreeable odor.

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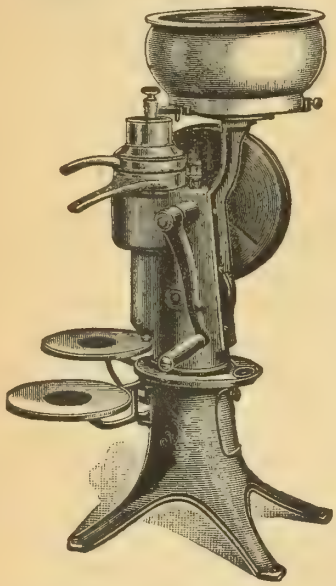

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The Business of Dairying

Progressive Dairying—West vs. East

The indivdual who keeps in close touch with dairying in the various Provinces of the Dominion, is always ready to note the adoption of any progressive methods by which the dairy interests can be furthered. In both Eastern and Western Canada the dairy industry has made considerable progress during the past five years. In the West it has been most marked. This is noticeable in output and method. The production of butter, cheese, milk and cream has increased over 300 per cent. during the past five years. Large creameries have been established in all the leading centres, with branch stations, along the railway lines where the milk and cream is gathered and forwarded by rail to the Central plants. In this way the dairy business has been built up, and made profitable to the producers. Also many creameries and cheeseries have been established in localities not convenient to railway station, where the cream and milk is delivered direct from the farm. A dairy map of either of the prairie provinces will show the large number of such factories and will give some idea of how numerous these are.

Realizing what a valuable asset the dairy industry is to our country the Departments of Agriculture of the prairie provinces have adopted progressive methods which have been strong factors in improving and making the dairy industry permanent. The provincial Live Stock Branches have selected and sold improved dairy stock to the farmers, have encouraged the use of registered sires, and otherwise assisted the homesteader and newcomer to "get in" on dairying. The Departments have appointed capable men as Dairy Commisisoners, to carry out a progressive policy in the making and marketing of the dairy products. The cool climate is favorable to the manufacturing of a high-class butter and cheese. This is supplemented by a system of pasteurization of cream, which is churned sweet, and from which is made a mild, sweet butter, requiring less salt and with excellent keeping qualiites. This butter sells on any market for a higher price than our Eastern butter, made under the old method.

At Western Exhibitions this year, Western butter, in competition with butter from Ontario and Quebec, scored from 3 to 7 points higher. The cream gathering system prevails throughout the prairie provinces. The farmers have been educated to take proper care of the cream and deliver it in good condition. This system has become popular by fair dealing and honest test. Where milk is delivered to cheeseries or for city consumption it is paid for according to its butter fat content, and also the solids not fat are taken into account. The man that produces 3 per cent. milk is paid only for three per cent. milk, while the man that delivers 4 per cent. milk is paid for the extra quality, usually at the rate of 3 cents on every one-tenth per cent. increase of fat in summer and 4 cents in winter. I have before me the schedule of prices of one large milk company from June, 1917, to May, 1918. They offer as follows, F.O.B.:

MILK TESTING 3 PER CENT.

	Per cwt.
July	$1.86
August	1.92
September	2.19
October	2.55
November, December and January	2.51

MILK TESTING 3.8 PER CENT.

	Per cwt.
July	$2.10
August	2.16
September	2.43
October	2.87
November, December and January	2.83

The standard of milk in most of the Western cities requires a test 3.5 per cent. fat and 8.50 per cent. of solids not fat. Should the solids not fat be 8.40, a deduction of 2 cents per cwt. is made and should the solids not fat be 8.20 there is a deduction of 8 cents per cwt. There is a further deduction of 5 cents per cwt. when the temperature is over 60 dgr. F. Also if the dairy score is under 50 there is a further deduction of 2 cents per cwt. and should the bacteria count exceed 1,000,000 there is a further deduction of 5 cents. On first thought this schedule may seem exacting, but on closer investigation it will appear most fair and sets a premium on quality. The testing for solids not fat, prevents the producer, who has low testing milk, skimming a part and adding the cream to what is sold, as this milk has not sufficient nor the corresponding per cent. of solids not fat, in other words it is doctored milk.

These are two methods wherein the West excels the East, viz.:—(a) the pasteurization of all cream for butter making and table use and (b) the paying for milk according to its content of butter fat and other solids. Ontario, which claims to be the banner province, must fall into line and adopt these progressive methods or she will be left behind in the race. In Ontario the pasteurization of cream for butter making is done

only to a very limited extent, and the payment of milk under the unfair "pooling" system yet prevails for milk sent to factories and delivered to cities.

The sooner Ontario adopts progressive methods the sooner will the dairy industry of the province be placed on a much higher plane. Quebec creameries largely pasteurize cream for butter making and the product excels that of Ontario and paying by test is general. Rumor has it that it will not be long until legislation will be brought into effect in Quebec to have all milk delivered to cities, cheeseries and factories in that province paid for according to its butter fat content.

These are just and progressive methods and it will be to the advantage of the dairymen in Eastern Canada to have them brought into effect—W. F. Stephen.

Creamery in North

The creamery at Grand Prairie, Peace River, Alta., is beginning to show results in the shape of ready money, and many of the farmers near that town are buying milch cows as fast as possible. The grass of the north is splendid food and the results are proving satisfactory. The Grand Prairie creamery is nearer the pole than any other creamery in North America.

U. S. National Dairy Show

The National Dairy Show will be held at Columbus, Ohio, the third week in October. This is a big show and will be exceptionally interesting this year because of the getting together of wise heads in the present dairy crisis.

Holstein Records

Reports of the official tests of twenty-four cows and heifers were received and accepted for entry in the Record of Merit during the month of July, by the Official Records of the Holstein-Friesian Association. Lady Waldorf Pietje leads the mature class with the fine record of 35.39 lbs. butter and 772.0 lbs. milk in seven days, and 146.86 lbs. butter and 3,265.6 lbs milk in thirty days. Her best day's milk was 113.4 lbs. In second place comes Johanna Rue Luraine 2nd with a record of 30.20 lbs. butter and 703.6 lbs. milk in seven days from three-fourths of an udder. Her best day's milk was 104.7 lbs. Daisy Gerben Korndyke comes third with 27.88 lbs. butter in seven days. Madam Posch Pauline has completed 360 days under test with 1.115.11 lbs. butter and 27,371.7 lbs. milk.

No senior four year olds are listed, but among the juniors Jemima Johanna of Llenroc comes first with 23.09 lbs. butter, and Fayne Segis Countess is second with 21.76 lbs. Countess Walker Segis with 26.25 lbs. butter is the only senior three year old, while Colony Wadmantje Newman is best junior with 25.10 lbs. butter and 587.9 lbs. milk. Second to her is Pietertje Boutsje Wayne with 19.11 lbs. Toitilla Pontiac Tot is the highest senior two-year-old with 21.41 lbs butter, followed by Pontiac Ormsby DeKol with 13.68 lbs.

In the junior two year old class, Het Loo Pietertje makes a sensational showing, gaining, I believe, the world's championship for butter in the seven, thirty, and sixty-day divisions with 30.32 lbs. butter and 578.0 lbs. milk in seven days; 122.01 lbs. butter and 2,362.6 lbs. milk in thirty days; and 223.26 lbs. butter, and 4.561.1 lbs. milk in sixty days. Taking into consideration type, size, constitution and production, this is, undoubtedly, one of the greatest heifers the breed has yet produced.

Try Some Garden Comforts

September is a month in which the farmer needs to be fed even better than during any other month of the year. The hot, trying months of the summer have exhausted his system, and September frequently brings days that fill his body with weariness. While food is not everything it is a good deal and it may be so furnished that it will go a long distance towards keeping him and his family fit for the hard work to be done before the snow flies. And August is the time for getting much of the food in good condition.

The spring sowing of lettuce should be dug up and a new seeding made. The very richest ground in the garden is none too good for this purpose. Spinach and beets will come on surprisingly and by September will furnish the very best of greens. Served as our farmers' wives know how to prepare them these roots are food for the gods. The more rapidly-maturing garden peas will be ready for September use if sown in early August, and snap beans will mature and prove as luscious as desirable if given a start before the tenth of that month. What is of great advantage in this late sowing of the garden stuff is the fact that the early cultivation has left the land free of weeds and ready for the business of growing what the farmer wants most. The difference between the rapid grown and fresh garden sauce and the staler article left over from the spring planting is the difference between what is crisp and appetizing and the other variety that has but little attractive about it.

Soldiers' Sanitarium at Byron

The women of the Institutes in Middlesex county, Ontario, are finding a splendid line of work in contributing to the equipping and supporting of a sanitarium in the county for soldiers suffering from lung trouble. Most of the Institutes have already contributed one hundred dollars to furnishing the place with beds, bedding and other necessaries. Others have pledged themselves to give the same amount as it is required for renewing these supplies later on.

WHO BUILDS MY HOUSE?

Who builds my house? Why a thousand hands
From the carven wood to the chisled stone,
A hundred tribes from a hundred lands,
For no man buildeth his house alone.
One dreamed the dream in his artist brain,
One pledged the treasure, one called the crew,
And men like spiders on cable and crane
Wove through the air till the dream came true.

—By Charles Leroy Edson.

AN EXTRA INCOME FOR YOU

Who in Canada is there WHO DOES NOT NEED AN INCREASE in income to take care of extra needs and vacation expenses? That's where our plan of "spare time profits" shines with popularity. If you are one of the many who would appreciate an opportunity of turning your spare time into Cash profits, we would like to get in touch with you.

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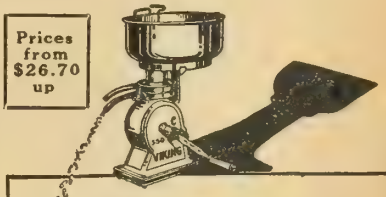

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MORE MILK MORE BUTTER MORE MONEY

World-famous as the econonomical producer among dairy cattle.

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A few young bulls for sale from Record of Performance dams, imported and Canadian-bred, sired by Auchenbrain Sea Foam (Imp.) 35758, grand champion at both Quebec and Sherbrooke. Write for catalogue.

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About Live Stock

Pertinent Questions

What about roughage for the ewes this winter?

Do you know the exact place where the hogs pay or lose?

Do you know what it costs to feed a steer during 8 months?

What gain will your hogs put on during the 4 to 6 months period?

Do you ever sell your own home grown grains and buy feed to make more money?

Have you the special bulletins on file from various experiment stations, tabulated under cattle feeding?

The reason an unlettered farmer often succeeds in making money, is that he plows thoroughly in advance, working on the information he knows. Rest assured ignorance and laziness of brain power never got any one in the farming business anywhere.—C.C.M.

Show Animals, 1918

Now is the time to do your planning for your exhibits of live stock at the fairs in 1918. It is absolutely necessary to have all animals in good show shape, and well mannered. It is positively useless to bring a thin fleshed animal into the show ring unless, possibly in the case of dairy cows, but these must be in perfect working health.

Money in Lincolns

Wm. Ford, of Elgin County, Ontario, keeps about 50 Lincoln ewes and regards the sheep as the most profitable thing on the farm. They will eat every weed and pay good returns. He prefers the coarse wools and keeps nothing but pure bred stock, selling the male lambs for $20 each and wool, at the big prices of this year, is no small consideration.

Do Hogs Pay Now

Having heard so many farmers say there was no money in feeding hogs with feed so high as it was last winter and spring, I thought I would do a little experimenting, as I had eleven pigs to feed, and was going to buy it all. I own a 75-acre farm in old Ontario in one of the best counties along the Lake Ontario front. Hog raising is only one of my many ways of making returns. I had to purchase all my feeding stuffs for this litter of pigs, if I were going to keep them on, so that I decided to know for myself if buying feed at prevailing prices could leave anything more than the experience and the manure for my labor and overhead expense.

The sow was kept during the sixteen weeks previous to the coming of the litter on chopped oats and shorts and mangels and had the run of the barnyard. This feed would not cost over $15 for her keep, at market rates. She had eleven pigs and raised them all, which, fortunately, helped out in the final gains. Care at farrowing time has a great deal to do with the success of the litter. The following is the exact cost of this bunch of hogs.

COST OF LITTER.

Sow's feed, 16 weeks	$ 15.00
Service fee	1.00
2,960 lbs. shorts	61.78
3,479 lbs. barley	83.2[illegible]
1,198 lbs. oats and barley	27.25
Total cost	$188.33
Feed cost to produce 1 fat pig	$ 17.12
Average price per ton for feeds	45.00

TOTAL RETURNS

11 pigs sold to local drover	$300.20
Gain over feed	$111.87
Gain per pig	10.17

In other words, I got $111.87 for my trouble, equipment, depreciation of buildings and interest on the first cost of sow, and the milk and other refuse from the house.

I am satisfied that it is quite possible for many farmers to be out of pocket in feeding pigs where they allow losses to creep in. I find it is poor policy to pamper the sow before farrowing and on the other hand to starve her. Give her plenty of run, green feed, water and shelter. The fattening pigs need constant care as to their progress, plenty of charcoal or green feed, good water and exercise during the first four months. In this case I consider that, while I did not make perhaps as economical gains as some have reported, the returns have paid me a fairly good margin after full allowances being made for work and overhead charges.—G. W. W.

Hogs in the World

The approximate number of hogs in the swine-growing countries of the world as given by the U.S. *World Swine* map is as follows:

United States	60,000,000
German Empire	26,000,000
Russian Empire	16,000,000
Austria-Hungary	14,000,000
France	7,000,000
United Kingdom	4,000,000
Canada	4,000,000
Argentina	3,500,000

Feeding Cattle in Open.

A bunch of 38 cattle were fed in Manitoba by H. A. Mullins of Gordon, Ironsides and Fares of Winnipeg. Mr. Mullins bought the 38 steers at the Union

Stock Yard, Chicago, and they were driven to his ranch 30 miles west.

There they were allowed to run in a nice close bluff where there was plenty of water. They were first fed barley and oat chop, with hay and oat straw for roughage and the last month corn. The only shelter they had, beside the bluff, was a rough open shed.

Their sale returns in 1915 were $109.34 per head and he made a good profit in the transaction.

Raise Sheep in B. C.

Sir George Bury, of the C.P.R., who was sent to Russia recntly to organize her railways, writes to the secretary of the British Columbia Wool Growers' Association as follows:—

"For many years I have been advocating an increase in the sheep industry and have made quite a number of public and semi-public utterances on the subject. The sheep population of the world numbers well over 600,000,000, and out of twenty-five countries Canada is near the foot, being twenty-second with 2,173,302—Australia coming first with 85,057,402. The decrease in Canada betwen the year 1901-1914, the most recent figures obtainable, amounted to 334,937, whereas there was in Australia an increase of 10,516,486, and an increase in South Africa of 19,388,340. Between 1900 and 1910, the number of sheep in the United States decreased 8,896,266, being given as 52,838,748 in the latter year.

"The number of sheep per 1,000 inhabitants in Australia in 1914 was 10,970; Ireland, 823; Great Britain, 578; United States, 575, and Canada, 302.

"The number of sheep per 1,000 acres of productive land in 1914 in Australia was 709; Great Britain, 509; Ireland, 192; United States, 60; and Canada, 20.

"These figures show to what extent the number of sheep in Canada might reasonably be increased, but instead we seem to be killing off the lambs and sheep very rapidly.

That Auction Sale

Many farmers plan to hold an auction sale before next season. Many do so because they are leaving the farm, others must do so to clear up an estate. Some take this method of reducing their stock. All cases are legitimate. And in all cases there are some points to watch for success. For the principal thing is to get into the minds of the buyers that you are honest in all things you are doing. Sincerity is a virtue that pays. Even in a surplus sale, it pays to be honest with the buyers. The farmers are not going to bid for your goods if they think you are using big bidders to run the stock up on them. Have your stuff in good convenient shape, and be honest in all things. It is not necessary to circulate a lie as to your leaving the farm in case of such a surplus sale. People can see through your deceit.

Everything at auction sales is likely to sell high this year, even old implements. A little paint, proper arrangement, care over little things, ease in settlement and possibly some warm coffee, count for a great deal. In selling livestock, it is well to tell all about the stock so that a buyer is not deceived. A good auctioneer must get all he can. Keep him in good humor, pay him well.

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SAFE FOR ANYONE TO USE.

We guarantee that one tablespoonful of Caustic Balsam will produce more actual results than a whole bottle of any liniment or spavin mixture ever made Every bottle sold is warranted to give satisfaction Write for testimonials showing what the most prominent horsemen say of it. Price, $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use.

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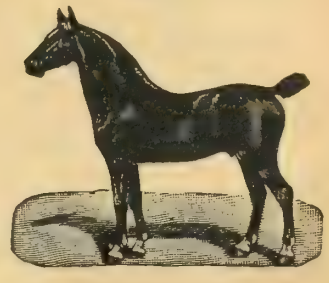

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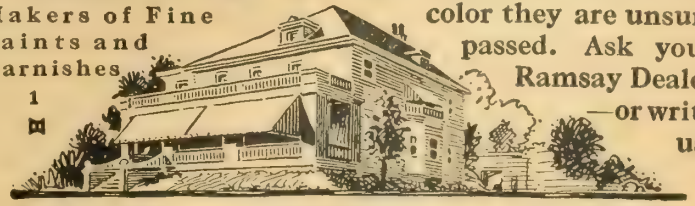

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ARE YOU NERVOUS DURING A THUNDERSTORM

Though ashamed to confess it, many people experience more or less nervousness during the progress of a violent thunderstorm. There is something terrifying in the feeling that the very next flash may spell one's own doom. But there is really little excuse for this. Statistics compiled by accident insurance Companies, show that one's chances of being either killed or injured by a bolt of lightning are something less than one in half a million.

As a matter of fact, for every one person who is killed by lightning, many thousands of persons die every year from causes which are easily within their own control. Neglect of the organs of digestion, for example, the common habit of allowing a condition of constipation to progress into indigestion and dyspepsia—this is the direct cause of a very considerable portion of the Chronic suffering that one sees on every hand.

The moment any symptoms of stomach disorder make their appearance, take proper precautions. Procure a box of Parmelee's Vegetable Pills and take according to directions. The common symptoms of stomach disorder are: dull or sharp headache; loss of appetite; sharp pains in the pit of the stomach; nausea after eating; a general feeling of lassitude and despondency. Such symptoms quickly yield to the remedial influence of Parmelee's Vegetable Pills which, by their gentle action on the intestines relieve constipation, and by promoting an even flow of bile, restore "tone" to the stomach.

For many years past these pills have been a standard remedy. Throughout Canada, particularly in rural communities where medical advice is not readily procurable, thousands of persons are never without a box or two in the family medicine chest.

Parmelee's Vegetable Pills have been enabled to retain so many friends only because of their unvarying helpfulness. They are compounded from a formula that has been tried and proved effective by the great Test of Time. Keep a box handy. You'll find them of constant usefulness in preventing minor disorders of the stomach from developing into serious, and probably fatal diseases.

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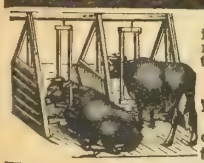

Henry H. Albertson, Burlington, N. J., writes: "My new Stanchions add greatly to the comfort of my cows."

WHY TORTURE yours with rigid stanchions? Send for specifications of inexpensive yet sanitary cow stable to

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Canadian orders filled from Canadian factory.
All correspondence should be addressed to the home office. State in inquiry if you prefer booklet in French or English.

Stays With It

"We have been taking the magazine now for over a year, and are much pleased with the reading."

Geo. Johnson.

Croton, Ont.

Cattle At Prince Albert

The figures from the jail farm at Prince Albert, Sask., for the feeding of cattle will be of service to farmers in the prairie provinces. A herd of 40 cattle was bought during the fall of 1916, and carried over till the month of July, 1917. They were then sold for 11 cents, the average weight being 1,300 pounds.

The facts of the feeding are:

Cost of 40 head	$2,343.00
Cost of feed for winter	2,138.00
Selling price	6,007.00
Gain	1,526.00
Gain per head	38.15

These cattle were fed during this time on 3,779 bushels of oats, 1,402 bushels of turnips, 8,124 green sheaves, 1,219 sacks of chopped oats, and no hay.

The Right Way for a Preacher

Rev. Charles Eaton of Madison Avenue Baptist Church, New York, and a Canadian-born, farms a place of 200 acres. Sunbright Farm, as he calls it, is on a gentle slope of the Watching Mountains, near Plainfield, New Jersey. His one son, and five daughters all like the work and they do the bulk of the work themselves. He regards the farm as a real home, and working and preaching as an ideal combination.

When Buying the Bull

Seventeen years ago two neighboring farmers in a western Ontario county made a start with pure bred Holstein cattle. Both were young men and both in comfortable circumstances. Last fall I saw these two herds side by side in the show ring at the local fair. Without an exception every red ribbon went to one of the herds, while the other herd secured awards only when the classes could not be filled from the first herd. Nor was the showing made by the two herds in official test work any more to the credit of the second herd; in fact, official test work had been abandoned because of the low records made.

The present day disparity is due, so I am told, entirely to the quality of the bulls used in each, the foundation cows being of similar breeding and equal merit. But the first farmer, with a foresight that did him credit, imported one of the best bulls brought into Canada up to that time. Several Canadian champion producers are now numbered among his descendants. The bulls that succeeded him in the herd were of like calibre. Every move was carefully planned to bring the herd a little nearer its owner's ideal. To-day there are few better herds in Canada. The bull did it.

The second farmer was given a chance to buy a half interest in his neighbor's first bull. He declined. He could buy a bull of his own for less than half the price asked for half a bull. He bought cheaply, has continued to buy cheaply, and today is considering selling out his herd and going back to grades. He is a failure and knows it. Again, the bulls did it.

I question if the owner of a grade herd is well advised to put more than $150 in a bull; that is, unless his herd is well graded to one breed in which case a real good bull may be necessary to effect further improvement. But with the breeder of registered cattle, the question is altogether different. His only hope of success as a breeder and his surest road to success lies in the use of the best bulls that he can buy. The herd sire in this case must be backed by strains that are proven producers and well constituted animals. The bull himself should combine good individuality with his record breeding. With such a sire, a mediocre herd will be rated excellent with a couple of crosses. With any other kind the best herd may soon be rated mediocre.—F. E. E.

Rations for Pigs

The following rations have been found satisfactory for developing young pigs in a dry lot or with a forage run. They can be finished with corn or other fattening feeds.

RATION 1

32 pounds corn meal
32 pounds wheat middlings
32 pounds ground oats
4 pounds oil meal

RATION 2

32 pounds ground barley
32 pounds wheat middlings
32 pounds ground oats
4 pounds oil meal

RATION 3

47 pounds corn meal
47 pounds wheat middlings
6 pounds oil meal

RATION 4

47 pounds wheat middlings
47 pounds ground barley
6 pounds oil meal

Ration 1 has a mixture of feeds in about the exact proportion to be relished and to keep the digestive tract in proper conditon. It has about the proper nutritive ratio for the young growing pigs but during the fattening period ear corn should be fed in increasing amounts. Oil meal is one of the most important ingredients. Mixed with the slop the oil meal form a sticky combination which prevents the meal from settling and thus gives a uniform mixture. Without oil meal or milk in the slop, the other feeds will settle rapidly to the bottom of the pail or barrel, forming a thin slop at the top and a thick slop at the bottom. Oil meal always serves an important function in the animal body; it regulates the digestive organs and gives a quality to the skin and hair that otherwise cannot be secured.

Watch for Blackleg in Cattle

The Manitoba Department of Agriculture has had complaints from a few parts of the country of loss among cattle from blackleg, and this is just the time of year to be on the lookout for it. The blackleg germ, when once introduced into a district, lives in the soil, and is liable to attack animals, especially young cattle, at pasture.

The symptoms are quite characteristic, the first usually being sudden lameness, in which one of the legs is dragged stiffly. Local swellings develop rapidly, and these produce a crackling sound when pressed.

The disease is almost always rapidly fatal.

The Department reminds the public that although curative treatment after infection, is not practicable, prevention is possible through vaccination. This year a large amount of blackleg vaccine was used in all the Western Provinces because of the publication last winter of a circular on this subject. Farmers with cattle at pasture should get a copy of this circular from the Publications Branch, Department of Agriculture, Winnipeg, or should send direct for the vaccine and circular to Dr. C. D. McGilvray, Dominion Government Veterinary Inspector for Manitoba, Boyd Block, Winnipeg: In a single day lately Dr. McGilvray's office received orders for more than two thousand doses of blackleg vaccine.—George Batho.

Cow Bill Popular

W. J. Stark of Edmonton, states that the Alberta Legislature's Cow Bill is becoming very popular. This bill helps farmers starting to get into live stock.

Care of the Manure

As cattle will be fed more as a means of maintaining fertility than as a direct source of profit, the manure must be properly cared for. Paved floors should be provided for the buildings or for that part of the yard which the cattle frequent most, and sufficient bedding should be used to absorb the urine. Two-thirds of the nitrogen and from three-fifths to three-fourths of the potash are passed off in the urine.

On a three-months' feed from 2 to 2½ tons of manure, including the bedding, will be produced by a 1,000-pound steer. That the greatest value may be obtained from this manure it should either be hauled to the field as soon as produced or be allowed to accumulate in sheds where the cattle will keep it tramped, sufficient bedding being used to absorb the liquid portion and to keep the animals clean and dry. As soon as possible the manure should be hauled and spread on the fields.

The Feeding Margin

The difference between the purchase price and the selling price of an animal is called the margin of profit. This is usually estimated on the basis of 100 pounds live weight. Thus a margin of $1.50 means that the feeder received $1.50 per hundredweight more for the animals than he paid for them. The amount of margin is a very important factor in the profit from feeding steers. The margin required to break even in feeding operations depends upon a number of factors, the principal ones being (1) the purchase price, (2) the weight of the cattle when purchased, (3) the value of the feeds used, (4) the gain in weight made by the animals, and (5) the length of the feeding period. The higher the purchase price, the heavier the steer when purchased, the cheaper the feeds, the greater the daily gains, and the shorter the feeding period, the smaller the margin may be between the purchase price and the selling price of the cattle, without loss to the feeder. With a steer of poor quality and with high-priced feeds, the margin must of necessity be great, but with the best quality of steers and with cheap feeds the necessary margin may be very small.

A comfortable horse is a good worker

Keep a horse comfortable and he won't mind hard work, but will do his share cheerily and give little trouble.

A collar that rubs and chafes will soon bring irritating gall sores and consequent peevishness in the horse. Such constant irritation lowers vitality and lessens the beast's efficiency. You can't possibly get full service from a peevish horse.

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Ask your dealer for Ventiplex Anti-Frost Weather-strip to keep out the cold and save fuel.

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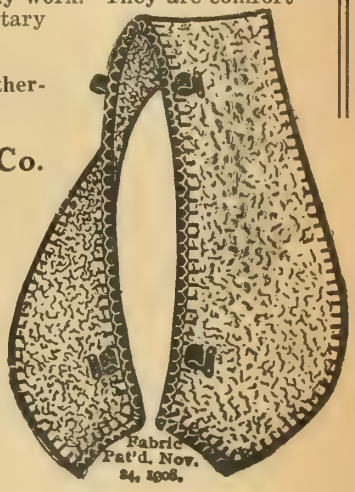

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Are you any busier than Ernest B. Jolliffe, of Stratford, Ontario.

Mr. Jolliffe is a business man but—he finds time in which to obtain subscriptions to MacLean's and Farmer's Magazine.

He likes to get out in the open and make new friends and is well repaid for time so spent.

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In The Poultry Yard

$2.85 Per Hen Per Year

By A. P. MARSHALL

ONE hears so many complain at the present time because of the high cost of grains and the difficulty to keep the hens suitably supplied, that it is refreshing to meet one who is obtaining continued profit and using methods which bring most profitable results.

Mr. K. Wildern, Lundy's Lane, Niagara Falls, has developed an unusual system that is making profit for him and furnishing the best of eggs and chicks for his table. His situation as a Bell Telephone Supt. makes it advisable to handle but a few birds and therefore as he points out possibly his methods would not prove as useful where great numbers are handled but no doubt more people raise but a few chickens to have eggs and meat for their own use than commercially and much in Mr. Wildern's methods could could be copied to advantage.

In the first place Mr. Wildern does not attempt to breed or hatch at all. He buys 25 to 100 white leghorn chickens in the spring (the end of April) and raises them to maturity, killing and selling or using the cockerels for his own table and keeping the desirable pullets for laying purposes. He has found it best to discard the year old hens just as soon as they stop laying in the summer or fall getting rid of them as fast as they stop producing. The chicks purchased mature and come to laying just about the time his hens are mostly killed off.

For the past four years Mr. Wildern has bought with but one exception from the same man and so long as the present good results hold out he plans to stick to his satisfactory source of supply.

Mr. Wildern's methods do not provide for much yard room. When we saw the young stock, about forty to fifty pullets had a coop about 8 ft. sq. and about as much yard. A like number of cockerels had as much coop room but no yard. The quarters, however, were scrupulously clean and are kept so by being cleaned out unfailingly every day.

Seven hens in prime condition (July 29) were in a coop only 3 by 7 and inspection of the nest displayed four eggs early in the day after six the previous day. Those birds had never left that coop in 12 months. Contrary to usual custom they were not pullets but had been carried over to fill up a shortage last fall.

Mr. Wildern has paid from 10 cents to 15 cents each for his chicks and feels this to be much cheaper than carrying the breeders and hatching himself. He has also found that stock treated as his is will not breed specially well, in spite of the exceedingly good results otherwise and the prime condition the birds always seem to show.

After the chicks are started the food is not varied much. Until they are a year old or until spring a dry mash is in front of them all the time. If any birds are kept longer the dry mash is discontinued. Keeping the birds active is a very large part of the trick in getting results. "They must always be hungry," said Mr. Wildern. "I notice the difference in my neighbor's flocks. My birds hear me coming and make every effort to get through the netting to me and then they work and scratch all day for every last kernel but not so in many flocks. The feed is thrown to them and they lie down for the rest of the day."

Oats has great preference here as the rations will show. The mash consists of 1 part middlings, 1 part bran, ½ part cornmeal, 1 part beef scrap, ¼ part oil charcoal, 1 part ground alfalfa. In winter the cornmeal is doubled.

Scratch feed consists of 1 part wheat, 1 part corn, 2 parts oats. Of course it must be born in mind that the scraps from the table mean no little additional to satisfy the special tastes of the birds. Let-

POULTRY FUTURES

With high-priced eggs, big demands for live poultry and the feed question where it is, the farmer hardly knows what to do during the coming winter in the matter of hens, ducks, turkeys and geese. Without doubt, these poultry will pay for their careful rearing as well as in any other time. It all requires more care, more savings and the weeding out of poor non-paying members of the flock. Selling methods have a great deal to do with profits We present elsewhere in this issue an article by Lewis N. Clark on the situation. Read it.—EDITOR.

tuce and other greens are fed frequently from the excellent home garden.

The tabulated record below of a few months show why Mr. Wildern does not consider hens when he has the pullets. In this test there were eight of each in the small three by seven coops.

	Eggs Laid Hens	Eggs Laid Pullets
Dec.	28	42
Jan.	37	70
Feb.	77	89
Mar.	93	172
Apr.	138	181
May	140	213
June	140	196
July record confused (vacation)		
Aug.	109	204
	562	1167

The pullets laid more than one-half as many again as the hens.

It is very fortunate that the figures are available showing exactly what the items of cost were and the details making for profit. It will be noticed that no credit is taken for the equipment still on hand or the birds on the plant which, of course, add just so much more to the profit in the statement. Here are the records for the four years.

PURCHASES—1912-13.

25 chicks, 10 each		$2.50
Equipment—		
Netting	$ .30	
Coop	10.00	
Hardware	.50	
Bottle	.25	
Cotton	.10	
		11.15
Feed, including grit and shell		12.80
Scraps (gratis)		....
		$26.45

SALES—1912-13.

16 chickens sold 50c each	$8.00
Eggs laid and value—	
Oct.—25	.70
Nov.—86	2.80
Dec.—73	2.96
Jan.—96	3.60
Feb.—150	4.35
Mar.—157	5.24
Apr.—168	5.60
May—168	5.60
June—156	3.90
July—145	3.54
Aug.—129	3.23
Sept.—36	1.05
Oct.—14	.35
	$50.92
Balance with 8 birds on hand	$24.47

PURCHASES—1913-14.

8 hens on hand.		
25 chicks, 12c each		$3.40
Equipment—		
Cotton	$ .30	
Paint	.75	
Frames	3.75	
Glass and putty	1.20	
Water bottle	.25	
Roofing	1.50	
Lumber	1.50	
		9.25
Feed		37.33
		$49.98

SALES

28 chickens, 50c each		$14.00
Eggs laid and value—		
Oct. 43	$1.58	
Nov. 0	0	
Dec. 108	4.05	
Jan. 46	1.90	
Feb. 49	1.85	
Mar. 123	5.63	
Apr 283	5.88	
May 316	6.58	
June 313	6.50	
July 232	4.92	
Aug. 98	2.45	
Sept. 0	0	
Oct. 101	2.98	
		42.32
		$56.32
Profit with 15 birds left over		$6.34

Continued on Page 96

Isn't it a Mistaken Kind of Patriotism

to keep hens that will lay so few eggs that the feed they eat is worth more than the eggs they lay? Not only are their owners "out of pocket," but it is working directly against the great need of greater production. The poultrymen of Canada must produce more eggs than ever before, but with the present high price of feed they must make sure that their hens are "doing their bit." The cheapest and best method to get a heavy-laying strain is to buy breeding stock in the Fall, and save your own eggs next Spring.

Oldham Farm has some exceptionally good yearling hens to offer—hens with high Winter trap-nest records that have finished moult. $1.50 each for either White Leghorns or Barred Rocks. Write for further information to

LEWIS N. CLARK, Owner and Manager

OLDHAM FARM, Port Hope, Ontario

BISSELL Double Action Harrows will thoroughly cultivate and pulverize any soil. One Harrow is Out Throw; the other is In Throw. They are simply constructed, rigid and durable. The Gangs are flexible and the Disk Plates are so designed that they "hang" right into the soil. Bissell Harrows are built in sizes and weights suitable for horse or tractor use. Write Dept. Y for free catalogue. 98

T. E. BISSELL CO., LTD., Elora, Ont.

These Harrows will be on exhibition at Toronto, London and Ottawa Fairs, and will also be demonstrated at the Third Tractor Farming Demonstration, Toronto. See advt. also on page 77.

MANY DAUGHTERS OF THE FARM ARE NUMBERED AMONGST OUR STUDENTS EACH YEAR

Academic courses from Preparatory Work to Junior Matriculation, Teachers' Certificates and First Year University · Music, Art, Oratory, Domestic Science; *Social Economics and Civics*; Commercial Work; Physical Training—gymnasium, swimming pool, etc.

ONTARIO LADIES' COLLEGE.

Calendar from Rev. F. L. Farewell, B.A., Whitby.

FARM BOOKS THAT HELP

Keep adding to your library a few good works about your business. The following books will be sent postpaid to you upon receipt of the prices named

Shorthorn Cattle
By Alvin H. Sanders
Editor Breeders' Gazette
The leader for breeders of Shorthorn cattle in America, with a history of the British work.
$2.10, postpaid; half leather, $2.60.

The Story of the Herefords
By Alvin H. Sanders
A companion volume to the one on Shorthorns and represents the latest in the Whitefaces.
$2.25, postpaid; half leather, $2.60.

Alfalfa in America
By Joe E. Wing
The full story of the growing, cultivation and curing of this great hay crop.
$2.00, postpaid.

Swine
By Geo. E. Day
Prof. of Animal Husbandry at the O.A.C., Guelph.
330 pages, with 75 illustrations, descriptive, and treats of breeding, management, marketing and disease. Lippincott Series.
$1.60, postpaid

Horses
By Carl W. Gay
of the University of Pennsylvania.
Covers, structure, types, principles of breeding and horse in service. Lippincott Series.

Feeds and Feeding
By Henry
The standard book in America for feeders of livestock. A new, revised, up-to-date edition is out.
$2.50, postpaid.

Vegetables
By John W. Lloyd
of the University of Illinois.
It places vegetable gardening on a safe and sure basis. The book for money-making, business farmers
$1.60, postpaid.

Farm Dairying
By Laura Rose
A Canadian book by a Canadian writer on the subject.
$1.35, postpaid.

Sheep Farming in America
By Joe E. Wing
368 pages and treats fully the whole subject.
$1.10, postpaid.

Poultry Breeding
By Miller Purvis
A thoroughly reliable and informing work for the farmer or specialist.
$1.10, postpaid.

The Modern Gas Tractor
Its Construction, Operation, Application
A Practical Treatise
Written by Victor W. Page, .S.A.E.
Covers every branch of up-to-date Gas Tractor Engineering, Driving and Maintenance in a non-technical manner. Very well illustrated. Over 500 pages. Describes design and construction of all parts, their installation and adjustment, as well as practical application and use of tractors. Every farmer should have this book.
$2.00, postpaid.

THE FARMERS' MAGAZINE
143-153 University Ave., TORONTO

Farmers' Co-operation

Some News About the Way Real Farmers Are Pulling Together

A Growing Ontario Force

The spirit of organization is spreading rapidly over Agricultural Ontario. Three years ago while there were quite a number of Farmers' Clubs sprinkled all over this Province, there was no connection between them, no central organization, no recognition of any direct leadership arising out of the industry itself, no way of giving voice to the views of those who belong to the industry on questions that affect it and no possibility of bringing about any uniformity of action should it be deemed necessary. Concerted expression was impossible under then existing conditions.

At present we are in a fair way to have a solidly organized agricultural industry. It is only three years since the inspiration to consolidate the various disorganized clubs into some form of unity first took active form, and at present over 300 organizations have joined in the procession. Forty-five counties are affected by this merger of effort, and over 10,000 farmers have given their allegiance to the United Farmers of Ontario. Over 500 delegates attended the last annual meeting, the remotest portions of the Province being represented.

The activities of this movement among farmers is organization, education, co-operation under the United Farmers of Ontario, and commercial under the United Farmers' Co-operative Company. Both are making marked progress.

WESTERN MEN HELP MOVEMENT.

The United Farmers of Ontario this year held forty-seven meetings, organized twenty-three clubs, visited twenty-four clubs that had been formed, and also held twenty-eight local conventions, which were addressed by Mr. John Kennedy, Vice-President of the Grain Growers' Grain Co., Winnipeg, and officers of the United Farmers of Ontario. They adopted a farmers' platform, sent a delegation to Ottawa on the telephone question, opposed the increase in railway rates asked by the great railways before the Railway Commission, and have sent two delegates to Winnipeg and one to Regina on matters affecting agriculture; they also appeared before the Grain Commission in the interests of agriculture.

The United Farmers' Co-operative Company has also done its share in this work. Over half a million dollars' worth of business was done in 1916, saving thousands of dollars to farmers, both in what they bought and sold. This volume of business includes, corn, oats, mill feed, potatoes, live stock, sugar, salt, binder twine and coal. This year the business will reach the $1,000,000 mark.

If the 10,000 members, half of whom have not yet commenced to trade with the United Farmers' Co-operative Company, can do this amount of business, what will be the volume of business when the 250,000 farmers in Ontario use the United Farmers' Co-operative Company as their own institution.—J. J. Morrison.

The Farmers' Union

One of the farmers' organizations, which is solving the mutual problems of distribution and standardization of products and costs of marketing, with great success, and which gives promise of even greater achievement in the matter of co-operative buying and selling, is the Farmers' Educational and Co-operative Union of America. Organized in Texas in 1902, it now has over 2,000,000 paying members and is already organized in twenty-six states. Its local organizations own hundreds of warehouses, elevators and exchanges, as well as packing plants, creameries, etc. Its purpose is to get out from under the mortgage and credit system and onto a cash basis, and to shorten the route between the producer and consumer. The cost of membership is small and the benefits large.

The Gleaners

In Michigan they have a farm organization known as The Gleaners that is gaining much headway. "The trouble with farmers' organizations," says a farmer from that state, "is that usually they do not live long enough. Too often they are founded upon such a narrow and selfish basis that they do not make proper allowance for the rights of others. Sometimes they are manned by such fanatical and unwise leaders that they fall because of

BE A MEMBER

During 1918 every farmer should plan to link up with some distinctively farm organization in his province. We do not believe in class antagonisms, but every other business enjoys its particular organization. Farmers are the real citizens of any country and the more intelligent the farmer becomes, the more liberal in all his views does he grow. Nevertheless there is liberty in the truth and the truth in a wicked world of business is often got only by co-operation forcing out the facts The way an organized body of farmers can get results warrants a wider planning of our memberships. We want business farmers in control of our societies, visionaries are all right in the balancing of things, but the managing board and directorates should be practical, cool-headed business men.—EDITOR.

the weight of their own errors." That the Gleaners seem to have avoided both of these mistakes is evidenced by their age.

Membership in the organization is confined to farmers. The locals are called arbors. The benefits contemplate participation by all members of the family. Their activities include not only co-operation among themselves in the marketing of crops and the merchandising of things that come within the range of their ability to render efficient and economical service, but they attempt also to lend encouragement to other institutions and businesses of the community. The Gleaners boast that Michigan has more good small towns than any other state in the union and they claim the credit for it.

The Farmers' League of N. D.

The North Dakota Farmers' League elected its governor and a controlling vote in the legislature. The result is reminiscent of the old grange and greenbacker days, and those whose memories hark back a third of a century are mildly wondering whether more tangible and lasting events will follow the modern revolt against conditions thought to be artifically unfair to the farmer, says the *Breeders' Gazette*. State-owned flour mills, elevators, cold storage houses and packing plants are among the legislative measures programed for adoption. State supervision of marketing facilities of other kinds is sought. Gov. Frazier is earnest in his determination to put them through. Eventually Federal control of all these avenues of trade will be sought. How far this experiment in socialism will be carried is conjecture at present. Pioneer peoples, fighting for an economic foothold, have propagated new ideas. Some of them have taken root, others of a radical character have perished by the wayside. Eradication, not control, has been their war cry. It does not escape attention that pioneer peoples have been the prey of money-lenders and merchandizers who seemingly sought to kill the goose that was laying golden eggs for them, and those who have passed through such experience feel abundant sympathy for a section that is seeking to shake itself free from such grips. As a matter of fact, however, radical legislative panaceas for the body economic have not brought much of permanent relief.

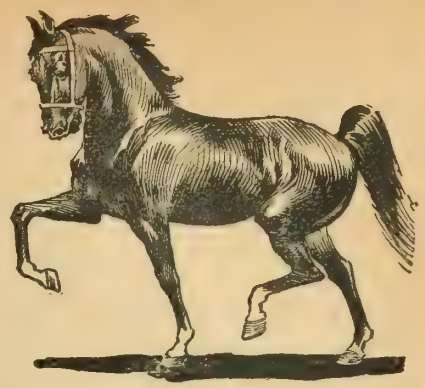
Some Hereford Prices

The Glengarry Ranch in Alberta, purchased Gay Lad 16th, the five-year-old Hereford bull at Harris & Son's sale in Montana, about the first of July. Forty head of bulls averaged $3,198 at this sale.

Judges at Western Fairs

The live stock judges at Calgary Fair were: Jas. McKirdy, Napinka, Manitoba, on Clydesdales, Shires and heavy draught horses; Prof. C. F. Curtiss, of Ames, Iowa, on Percherons and Suffolk Punch horses; E. B. Clancy, of Guelph, Ont., on Hackneys, Coach, Standardbred Roadsters and Carriage horses; W. F. Lowes, of Edmonton, on Thoroughbreds, Saddle Hunters and Jumpers; Prof. W. L. Carlyle, of Stillwater, Okla., on beef cattle; W. F. Stephens, Huntington, Que., on dairy cattle; John Wilson, of Minerton, Alta., on sheep; and G. H. Hutton, Supt. of Lacombe Experimental Farm, on swine.

Horses Needed for the Army



Top Prices Paid—but the Animals MUST BE SOUND

You are truly doing National Service, when you sell to the Government, horses sound in limb and body.

Every branch of the Service needs our sturdy mounts.

But inspectors are not interested in lame or blemished horses—they must be sound.

ABSORBINE

Puts your Horses in condition to command top prices

Have you a horse which might be rejected because of a Spavin, Thoroughpin, Bursal Enlargement, Shoe Boil, Capped Hock, Swollen Gland, Thickened Tissue, Enlarged Veins, Rheumatic Deposit, or any Puff or Swelling?

ABSORBINE will remove the blemish—stop the lameness—strengthen the weak part—make the horse sound.

ABSORBINE does not blister or remove the hair; absolutely safe; and the animal can be worked while being treated.

ABSORBINE is economical, because only a few drops are required for each application.

$2 a bottle—at druggists or sent post paid on receipt of price. Book "A" free.

W. F. YOUNG, P.D.F. 482 LYMANS BUILDING MONTREAL, Can.

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BE INDEPENDENT

IT IS YOUR SAVINGS, NOT PAY CHECKS THAT COUNT

The average town worker with a family cannot save more than $120 a year. Rent, food, clothing and expensive amusements take the rest. Once his machinery, seed and live stock are paid for the average Western Farmer has a yearly turnover of $500 and up, his own.

OWN A WESTERN FARM

by Homesteading along the lines of the Canadian Northern Railway, where the newest and most fertile sections are still open for settlement.

Booklets and information on application to General Passenger Departments: Montreal, Que.; Toronto, Ont.; Winnipeg, Man.

CANADIAN NORTHERN RAILWAY

$2.87 PER HEN PER YEAR

Continued from page 93

PURCHASES—1914-15.

15 on hand.		
50 chicks		$6.70
Water bottle		.25
Glass		1.00
Feed		45.77
		$53.72

SALES

46 chickens		$27.50
Eggs laid and value		
Nov. 83	$2.45	
Dec. 70	2.34	
Jan. 107	4.05	
Feb. 166	6.30	
Mar. 166	6.30	
Apr. 265	6.60	
May 361	7.50	
June 336	7.00	
July 296	7.14	
Aug. 204	4.76	
Sept. 109	2.07	
Oct. 12	.40	
		57.24
		$84.74
Balance with 16 birds on hand		$31.02

PURCHASES—1915-16.

16 on hand.		
Water fountain		$ .20
Feed		43.01
50 chicks		6.00
		$49.21

SALES

23 cockerels, 75c each		$17.25
Eggs laid and value—		
Nov. 160	$6.65	
Dec. 191	9.60	
Jan. 280	12.83	
Feb. 277	10.35	
Mar. 310	9.10	
Apr. 320	9.33	
May 334	8.35	
June 266	5.55	
July 239	5.98	
Aug. 124	3.10	
Oct. 0	0	
		82.13
		$99.38
Profit with 16 hens left		$50.17

Why Eggs Are Needed

Prof. R. Graham, of the O.A.C., Guelph, told the summer school there, that until recently we have been an importing country for eggs, and somewhat of poultry. He referred to the large egg wastage through various causes, saying that five dozen out of every thirty dozen are of no use. The average human being eats in some form one egg a day. It takes two carloads daily to furnish a city like Toronto with this particular item of food. Hence the importance of the industry and the necessity of increased production.

Leghorns Lead

Leghorns constitute 38 per cent. of the fowls entered at the Storr's Egg-laying Contest. Up to date they are beating their last year's records and leading all breeds.

Poultry on Grain Stubble

J.T., Manitoba.—I want to let my hens run on the grain stubble after harvest to save feed bills. Is there any danger? I have heard that they may get sick from over eating new wheat.

A.—By all means let them have the run of any grain stubble you can. They will save a great deal of grain that will be otherwise wasted. Turn your hens out for a few hours daily at first and then release all day. Hens that are gleaners of the stubble seldom eat heavily enough of one kind of food to be injured by it. Most farm flocks range on stubble.

Farm Poultry

The Ontario Department of Agriculture has issued Bulletin No. 247, a revised edition of No. 217, giving results of some experiments in poultry houses and in fattening chickens. It is prepared by Prof. W. R. Graham and F. N. Marcellus. The whole treatise is an admirable one and should be in the desk of every farmer. It covers the whole question thoroughly, as well as giving the values of various feeds for economical raising of poultry. It can be had free by writing the Agricultural Department, Parliament Buildings, Toronto.

For Preserving Eggs

In making the lime water solution it is important that good fresh lime be used. Use two pounds of fresh line and slake in a barrel or tub by adding about two gallons of water. After the lime is properly slaked sufficient water is added to make five gallons of solution, which will be sufficient liquid to preserve thirty or forty dozen eggs. After slaking it, the solution is allowed to settle. After it has settled, it is stirred up again. This is repeated a few times, after which the clear liquid only is poured off into the crock. The best plan is to put about six or eight inches of the solution in the crock before putting in any eggs. By doing this, there is less danger of cracking any of them. The liquid tends to lift them slightly. The eggs need not be put in in any special way. The crock should be filled with eggs up to within two inches of the top. The crock should set level and then be filled right up to the top with the liquid. Put in enough so it is just on the point of running over. After this is done melt about four ounces of paraffin, and pour it on the top. This cools and hardens and forms an air-tight covering which prevents any evaporation. By first boiling the water used in slaking the lime its preserving qualities may be slightly improved.—Prof. Herner.

The Ram

Perhaps there is no better example of the part the sire plays in the quality of the stock than in the case of the sheep. A good vigorous ram. Select your breeding stock early and do not begrudge a few extra dollars for him, says W. A. Dryden. A dollar more in the lamb's value soon pays for him. When a sheep returns the farmer $5 for wool and a $12 lamb, there is some fun in being careful with sheep breeding.

Sheep Shearing

Shearing sheep this year has been a more lucrative job than formerly. Five cents a fleece used to be the going price, but this year Ontario farmers were paid 15 and 20 cents, while the average price at R. C. Harvey's camp in Alberta was 12 cents.

Sells Milk River Ranch

P. Burns of Calgary, recently sold his Milk River Ranch together with the horses and cattle to a group of Lethbridge business men.

Uno Park, Ontario

On no account discontinue the Magazine. It is simply great. I enclose a few snapshots. If you can use them you are welcome. I am only an amateur. You see the men are always so busy they cannot attend to subscriptions.

Wishing you every success, I am,
Yours truly,
Mrs. G. C. F.

Sore Eyes **Granulated Eyelids,** Eyes inflamed by exposure to **Sun, Dust** and **Wind** quickly relieved by **Murine Eye Remedy.** No smarting, just Eye Comfort. At your Druggist's 50c per bottle. **Murine Eye Salve** in Tubes 25c. For **Book of the Eye Free** ask **Druggists** or **Murine Eye Remedy Co., Chicago**

SIMONDS Crescent Ground Saw, No. 325

GUARANTEED TO SAW MORE TIMBER IN LESS TIME THAN ANY OTHER SAW

With every SIMONDS Crescent Ground Cross-Cut Saw sold, a guarantee is given that this saw will cut 10% more timber in the same time and with the same amount of labor than any other cross-cut saw on the market. This guarantee has stood for 30 years.

SIMONDS CANADA SAW CO., Limited, Montreal, Que., Vancouver, B. C., St. John, N. B.

See This Model of the Settler's Home at the Toronto National Exhibition, Aug.-Sept., 1917

This is a typical Northern Ontario Settler's Home. In it will be exhibited samples of farm produce, grain and vegetables grown in Northern Ontario.

Opportunity Beckons in Northern Ontario

Northern Ontario, the great new land of freedom and promise, comprises a region large enough to include half a dozen European countries or the six New England and four Middle States of the American Union.

This immense region is connected with Southern Ontario by the Provincial Railway from North Bay to Cochrane, and is traversed from east to west by one of the finest railways in the world; the National Transcontinental line which runs from the Bay of Fundy to the Pacific Ocean.

This land is divided into eight great districts:—Nipissing, Temiskaming, Sudbury, Algoma, Thunder Bay, Rainy River, Kenora and Patricia. The vast resources of this great heritage are yet scarcely realized, it is but recently known and beginning in settlement.

Millions of Acres of Fertile Land for Settlers

Out of so vast an area there are, say, twenty million acres of agricultural land, most of which is good. There is what is called a Clay Belt, which extends westerly from the interprovincial boundary between Quebec and Ontario for over 400 miles, and which varies in depth, north and south, from 25 to 100 miles and more.

It is safe to say that from 65 to 75 per cent. of the Clay Belt is good farm land, and that this percentage will be considerably increased by comprehensive drainage, which the rivers will aid in making easy. Aside from its immense resources in timber, mineral, water power, fish, game and scenery, Northern Ontario contains one of the greatest expanses of fertile territory in the world.

For settlers the bush country of Northern Ontario has many very decided advantages over the open prairie of the Western Provinces. For instance, there is plenty of firewood and wood for repairing machinery, fence posts, lumber for building, etc.; no blizzards in winter; no windstorms in summer; there is shelter for stock, and good water; and not so great loss with frost and hail. The deadly monotony of the prairie is outdone by the varied forms of foliage, giving relief both to the eye and mind.

The bush country is preferable on account of its scenery, shelter, fuel, lumber, pine, atmosphere, delightful walks, shaded; there is more employment in the winter months; one can manage with bush life without capital better than in the prairie; the bush has too many advantages to mention in short space.

For Free Literature descriptive of Northern Ontario, Settlers Rates, etc.

Write to H. A. Macdonell, Director of Colonization, Parliament Bldgs., Toronto, Ont.

Hon. G. Howard Ferguson, Minister of Lands, Forests and Mines

The Answer Is—Power Machinery

The Country Demands Greater Production---
Labor is Scarce and Promises to be Scarcer Still

There you have the problem that confronts the patriotic farmer to-day.

The immediate and the logical solution is the more general use of Power Machinery on the farm.

There remains no question about the need of increased production. It is now realized by all. Yet in all sections of the country the shortage of help is a serious handicap. The general use of tractors drawing machines of large size offers the only solution of the situation, and we are in a position to furnish the implements best adapted for effective, economical work.

Having in mind the requirements of the times, we have made a careful study of power farming. The implements we offer for the purpose are especially adapted for use with tractors.

They are made in suitable sizes, have ample strength, are equipped with the proper hitches, and the matter of convenience of operation has been carefully looked after.

See the local Massey-Harris Agent, or write nearest branch

Toronto, Montreal, Moncton, Winnipeg Regina

Massey-Harris Co.
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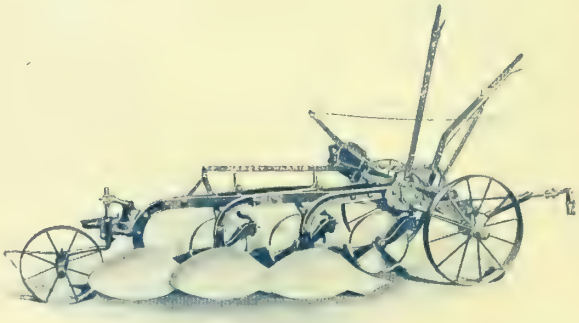

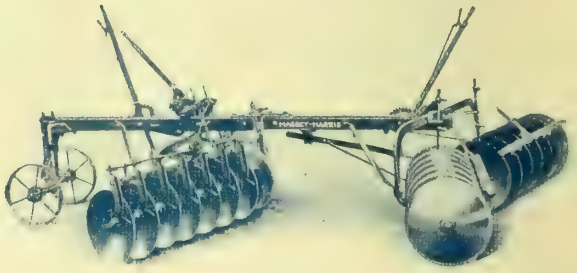

Large implements drawn by tractors will make possible the increased production so urgently needed at this critical time in the world's history.

TEN CENTS A COPY — ONE DOLLAR PER YEAR

FARMERS' MAGAZINE

30,000 Copies Printed. — Volume 10. Number 12.

OCTOBER 1917

He decides he is not getting enough for His apples

Mobilize for Marketing

So He talks the matter over with His neighbors

Production alone is not enough—skilful marketing makes for profits

Together they tend toward prosperity every time—for the farmer and for the nation. But most farmers are too busy producing to devise a more profitable marketing system themselves. CO-OPERATION IS THEIR HOPE. Together they may organize a selling business which will do it for them. They may then hire a competent manager and secure efficient selling equipment. With CAREFUL ORGANIZATION and the application of SOUND BUSINESS PRINCIPLES they will bring home the profits. IT IS WORTH A TRIAL.

Organizing for Solid Success

Capital is the first requirement. It is always unwise to venture in any business without sufficient funds. Many of the difficulties are promptly overcome when an adequate supply of capital is available. YOU CAN GET ABUNDANT FUNDS BY CAPITALIZING YOUR CREDIT ON THE JOINT NOTE PLAN. Write for particulars.

A RESERVE FUND. No successful business is run without some losses—buildings deteriorate, accidents in shipping occur, unexpected expenses are encountered. Without a reserve fund these demands are difficult to meet and discouragement and dissatisfaction is liable to ensue. A RESERVE FUND SAFEGUARDS ANY CO-OPERATIVE SCHEME.

DIVIDING THE PROFITS must receive careful attention. Profits consist of surplus earnings after overhead charges, running expenses and the reserve is met—in any business. This should be divided among the members according to the business done by them and each one should share expenses on the same basis. The important point, then, for the member to consider is the DIFFERENCE BETWEEN THE SELLING PRICE OF HIS PRODUCE AND THE EXPENSE INVOLVED—his profits—not the price the association can pay him when it receives his goods.

CONTROL BY MEMBERS is the distinct feature of the co-operative association. Each member must have but one vote—under any circumstances one vote only. Capital invested must receive a good interest, never any profits. This democratic control and these methods of dividing profits are the only points of difference between the co-operative association and the joint stock company. Otherwise the business must be conducted in exactly the same way if it is to be a permanently successful association.

Bed Rock Business Principles

AN AMPLE MARGIN between prices paid and prices received should be retained to ensure the covering of all costs. THE USUAL MARGIN ALLOWED BY SUCCESSFUL BUSINESS IN THE SAME LINE SHOULD BE RETAINED until the co-operative association proves itself by practical experience to be efficient enough to do the business on a smaller margin.

KEEP ACCURATE ACCOUNTS which will show exactly the conditions of the business at all times. CAREFUL AND ACCURATE BOOKKEEPING IS OF VITAL IMPORTANCE.

QUALITY OF PRODUCE should be the slogan and if adhered to will bring success. High class products sold on their merits make satisfied customers, increase trade and produce profits.

ADVERTISING PAYS in any business. Choose a trade name, give it a reputation for quality and place it before the public in good advertising mediums. IT WILL INCREASE THE DEMAND AND WIDEN MARKETS.

THE MANAGER and other servants of the farmer are worthy of their hire. Pay them well and insist upon efficient service. IT WILL ENSURE THEIR LOYALTY AND BEST WORK and will make the business grow.

GENERAL PRINCIPLES, as proper grading, suitable packing, continuous supply, knowledge of markets, etc., must be THOROUGHLY MASTERED BY THE MANAGER and fully appreciated by the members.

CO-OPERATION—SOUND IN PRINCIPLE, FEASIBLE IN PRACTICE, should be more generally studied and more widely applied than ever before. The crops this year—and in every year—should be marketed at a reasonable profit to every efficient producer. The interests of the most important class in Ontario, and of the nation, demand it. For full information regarding any of the above or FOR DIRECT ASSISTANCE IN ORGANIZING A CO-OPERATIVE ASSOCIATION OF ANY NATURE IN YOUR OWN COMMUNITY write the Office of the Commissioner of Agriculture, Parliament Buildings, Toronto. For general information upon the subject, write the Office of the Commissioner of Agriculture for Bulletin No. 254 - Co-operative Marketing Associations.

then He calls a meeting in His home and puts the question

Ontario Department of Agriculture

Parliament Bldgs., - Toronto

SIR. WM. H. HEARST
Minister of Agriculture

DR. G. C. CREELMAN
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ONTARIO

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The problem can largely be solved as far as stable work is concerned by putting in a BT Manure Carrier Outfit. A great many farmers have done this. They have taken a little of their crop money and invested it in this highly profitable improvement.

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Send the coupon at once.

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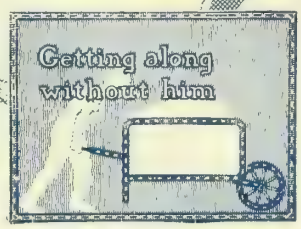

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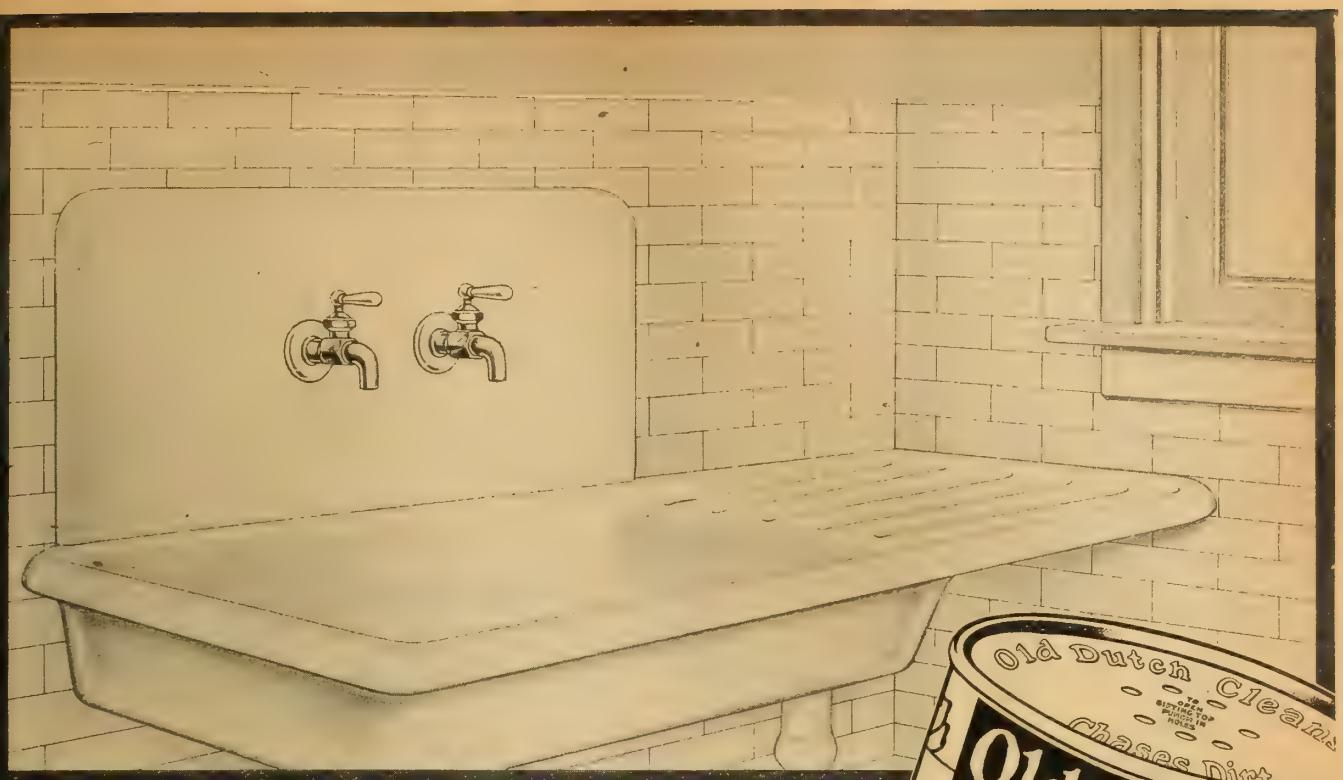

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Polished and Brightened
easily and effectively

Easy Thorough Purifying

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It's all easy enough if you sprinkle a little Old Dutch, then wipe; it is more than easy — it is thorough, and it's sanitary — leaves your sink sweet and clean and the taps brilliantly polished.

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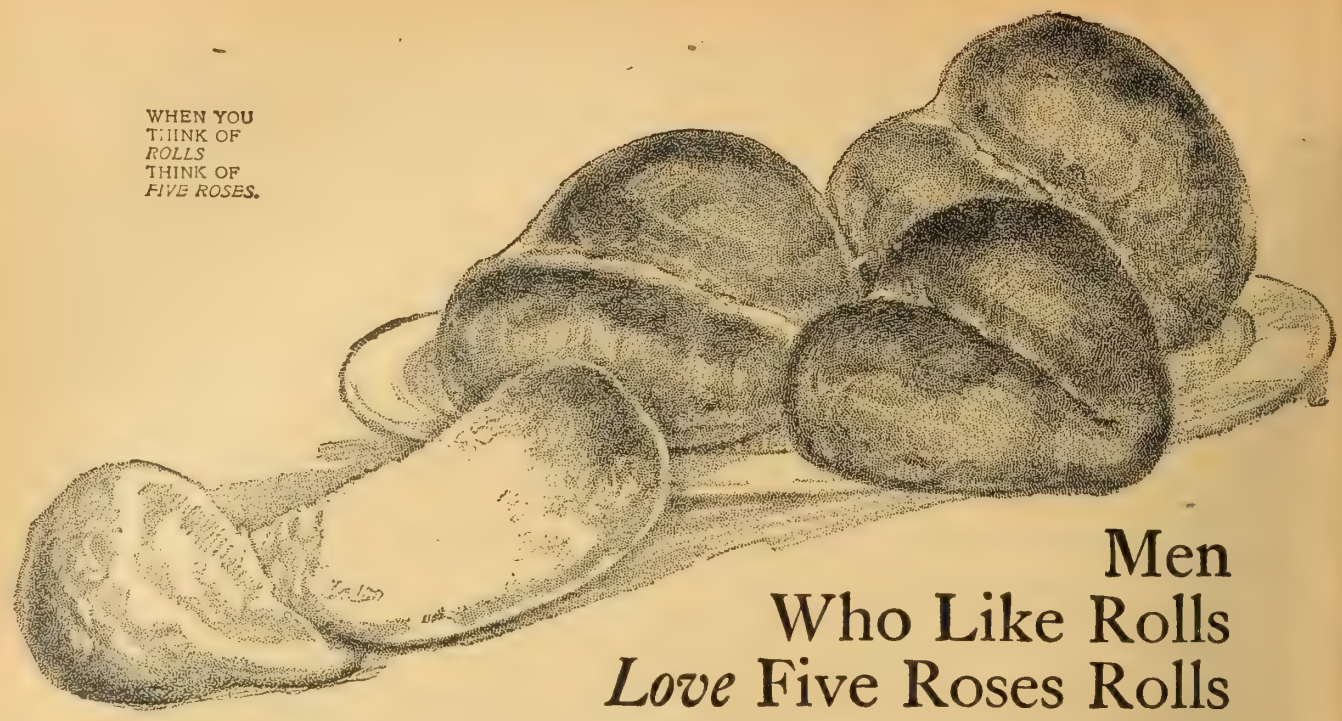

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The craving for good rolls is insatiable. People seek them before the meal and after when nothing else will do.

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Five Roses★ FLOUR *for Breads-Cakes Puddings-Pastries*

Think of the lightest bread sponge imaginable, brushed with sweet melted butter, baked into crisp bits of golden brown—and you think of FIVE ROSES rolls.

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And so delicious in savour and aroma that the children will eat more of the breadstuffs that are so good for them.

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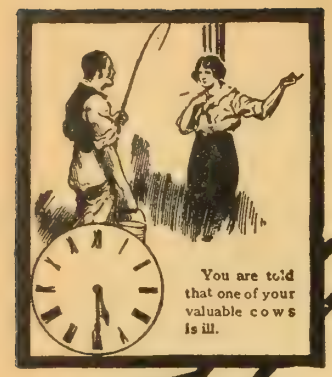
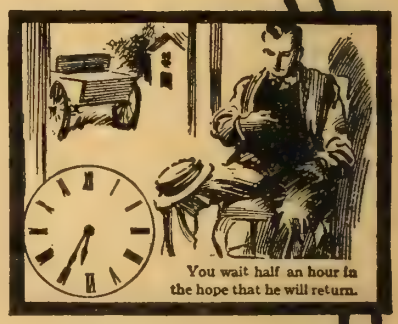

You are told that one of your valuable cows is ill.

You harness up for a long drive to the Vet's.

You arrive at the Vet's after half an hour's hard driving.

And discover the Vet has just left home.

These Pictures tell a Story of vital interest to YOU


You wait half an hour in the hope that he will return.

They show the penalty—yes, penalty of being without a telephone.

When you want a "Vet" you usually want him badly. His immediate attendance means all the difference between life and death to valuable stock.

Or suppose you or one of your family are taken ill with apoplexy or appendicitis or some other equally vital illness, the matter of an hour may mean mortal agony, or death.

Read what these practical farmers say about their experience with the telephone:—

H. J. Bray, of Plympton, Man., says: "The telephone saved my life. I had been away for a holiday, took sick, got home as quickly as I could, my wife phoned for our doctor, he was away in the city but our agent got busy and located the doctor. My wife told him how I was feeling; he said he would be out a soon as possible, got here at 11 o'clock at night, examined me, said it was appendicitis and must be operated on right away. So was off to the city next morning, was operated on at 10 o'clock. The doctors said it was none too soon, another few hours and it would have been too late."

A. Reusch, of Otthon, Sask., says: "I have had it now a little over eight months; it has cost me quite $20.00. In that time this $20.00 has saved me $200.00 or more in horses by being able to get the vet., in half the time. Not only that, I made over $100.00 by being able to keep in touch with the local Grain Buyers and was enabled to sell my grain for the best figure."

R. G. Thomson, of Clinton, Ont., says: "In case of an accident or sudden illness, its value cannot be reckoned with in dollars and cents. I know of one case where a woman took the wrong medecine by mistake, and had the doctor been twenty minutes later he could not have saved her life."

When the telephone could mean so much to you, why delay? More than 125,000 farmers now have Rural Community telephone lines. Why shouldn't you?

Send the coupon now for our booklet "How the telephone Helps the Farmer." You'll never regret it.

You start off to the next Vet.

And after an hour's journey you find the second Vet in.

WE SUPPLY everthing a Telephone Company needs from the organization of a Company to the complete plant—inside apparatus and batteries as well as line construction material and tools. Our business is the telephone business.

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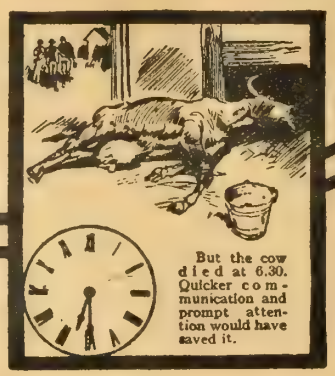
HALIFAX TORONTO REGINA VANCOUVER


But the cow died at 6.30. Quicker communication and prompt attention would have saved it.

Both Vets arrive

TEN CENTS A COPY ONE DOLLAR PER YEAR

The FARMER'S MAGAZINE

Volume X TORONTO, OCTOBER, 1917 Number 12

If a Tractor—Which?

By THE EDITOR

What the Farmers are Thinking as They Watch the Demonstrations

WE have been advocating the use of tractors in Canada's farm work rather strenuously. We have called loudly for a more vigorous forward push in our "more production" campaigns. And now with two more big tractor demonstrations in Eastern Canada, with over a hundred in use by the Ontario Government, and with hundreds privately owned in Eastern Canada, what is the conclusion of the matter? If we must buy a tractor to help us out of our labor troubles on the farm, asks one farmer at the Richmond Hill demonstration, what tractor suits our purposes the best? Tell us the best one.

Now, here's where there is something doing. The tractor has in fact got beneath the rural skin. It is moving along at more than two and a half miles per hour into real weeds on Eastern farms. The welcome that the farmers have given to the Government machines is simply wonderful. Despite the disheartening answers to Mr. Bailey's interrogation of the District Representatives early last April, the demand has been growing. Farmers everywhere are inquiring silently, interestedly, into the situation. Until suddenly some man usually regarded as ultra conservative by his neighbors startles them by the sight of a tractor crawling over his fields.

The fact is, the tractor is no luxury. It is coming fast because it is doing economic work. It will have to prove its right to existence by the utilitarian code. Otherwise all this demonstration work, and multiplicity of designs, almost mushroom-like growth of tractor companies, will go as many other predecessors that have swarmed the front lines of new development work. The reaper, mower and binder passed through the same stage.

And the tractor is not perfect yet. The universal machine, we fear, has not yet appeared. But it is remarkable how well all the machines are standing up, are being managed so easily, and are doing work economically on the private farm.

"I have had a Government tractor on my 300-acre farm for several weeks this year," said a young farmer from York, "and I am satisfied that they are going to be a profitable and even necessary investment, if we are going to get more out of our soils. Of course this machine had its troubles on our fields. Chiefly, I would say it was due to the operator who had little previous knowledge of plowing, expected to work only eight hours a day, and thought his work was so valuable as a publicity business that he stopped to talk

These two views were taken at the Richmond Hill Tractor Demonstration. The majority of the cars were farm-owned.

indefinitely to onlookers and investigators. Yet, he did good work. If he had not plowed that 40 acres we would not have had it in crop. We simply can't do more with our present help."

That young man's experience practically covers the situation. Many Government tractors have fallen down because of the very things of which this man speaks. The War Production Club of Toronto had a similar experience and withdrew their fleet from the work, with just a suggestion of a huff in the retreat. And yet, says William Greig, who is head of the tractor department of a leading business firm, "where our machines are on private farms, with personal interested ownership, we have yet to report a case of dissatisfaction or inability to make the tractor pay, and be useful in many ways."

Hundreds of farmers came to the Canadian National Exhibition and again to the Richmond Hill demonstration to get further light on the situation.

"We have simply got to have them," remarked genial W. A. Dryden, of Brooklin. "It is a case of power on our farms. The details of style, hitch and price will be worked out when the demand gets down to a standard stride."

WHAT ABOUT THE 100-ACRE MAN?

But what about the man on the 100-acre farm? Can he economically handle one? The majority of the farmers present could not see that he could unless he had uses for belt power that would relieve him of other expenditures and justify a rather lively bill for accessory machines.

Nevertheless, this 100-acre man has not labor and horse power enough to get the maximum out of his soil. Seasons are short, weather conditions vary. Effective field operation often has to be done quickly. And the tractor, that is, the light, easily operated, cheap tractor, looks like a solution of this man's troubles.

"It would be a long time," said one farmer five years ago, "before farmers will be driving automobiles generally, because they can only use them in the summer, and they have to keep horses for the winter anyway."

At these demonstrations the whole parking room was taken up with farm cars. They swarmed there from every concession line each day. Manufacturers have been at their wits' end to supply the farm trade this year. So much for our farm friend's early foresight. The same will be true of tractors on the 100-acre farms of Canada. Power needs demand something. And where the need is the satisfaction soon comes.

A SHORTAGE OF FARM POWER

Enough has been shown, even if these demonstrations did not demonstrate much beyond a nice furrow, to warrant the use of farm tractors. Tractors are making a big difference in our production totals. They can operate in hard soil, in dry weather, at night as well as in the day, and can be operated by men physically incapable of strenuous work with their foot and arm muscles. And there are going to be many such men after this war. An American writer in dealing with the tractor need, says:

"The call to America is for food, more food and still more food. Our Allies across seas are sending us the same plaintive appeal. We can't win the war unless American farms return a maximum yield. A maximum production is impossible under the old order of farming—there isn't power enough to prepare the soil and harvest the grain.

The farm tractor has been accorded the role of filling this breach. Our agricultural authorities and economists tell us that the tractor is necessary. Supplying ourselves, our Allies and the neutral nations would be an easy job were tractors as plentiful as they should be. There will be no time so long as the war continues, or years afterward, for that matter, when the supply of tractors will equal the demand of American farms.

It is very evident, therefore, that the tractors which are available must be worked to the limit of their possibilities. There isn't enough power on American farms now to plant the record acreage of winter wheat which our Government is urging. Every tractor in the land, every horse and mule, all working ten, twelve or even sixteen hours a day cannot plow the demanded acreage."

THE VARIOUS MACHINES

What is the best machine here? We asked this question of many farmers. The majority of answers were, "I'm sure I don't know." Others were emphatic in their praises of this machine, and others of another make. The room taken for headlands, the depth of the furrow, and the soil packing were the points of visual contact, generally.

Many manufacturers were sanguine over their creations. There were the two-wheelers, the three-wheel types, the four-wheel truck types, the caterpillar or track-layer types. As far as the plows went, they were all doing good work at Richmond Hill. The land was dry and hard. As a test it was a good one.

"We are the only engine on the ground that is pulling three 13-inch bottoms," said one rather enthusiastic promoter, "and I will give one machine to the Red Cross if any other machine can follow us in what we do."

I told him that several farmers feared complications in his control and eccentricity in the steering device. Then, again, a fruit farmer objected to his big wheels. "Of course, we can't climb a tree, but if you had a hired man and he let his horses run away and smash the machine what would you do to him?"

But analogy proves reacting and people, as these remarks indicate, want to know the ins and outs before they put up $1,000 to $1,800 for a tractor, with possibly bigger expenditures for plows and accessory machines.

DO MACHINES COST TOO MUCH?

Just here is one reason why farmers are not plowing more land this fall. The machines cost too much. If the Government forces are anxious to increase production, something should be done to work out this high cost situation for machinery on the 100-acre farm. It would have been a master stroke as a war measure for the Government to put on a big fleet of tractors, so that the plowing could have been done by the farmers without their expenditure of thousands for machinery about which they carry fears and apprehensions as to its future usefulness.

It would have solved the experimental stage, demonstrated the usefulness more fully, and then left these machines on the farms at a fair re-sale price. It would have taken only a small amount of public appropriation as compared with the big expenditures already being made in extension work of the Department of Agriculture.

It is estimated, says Barton Currie, that next year the American farmer will be spending between $60,000,000 and $70,000,000 on tractors. Possibly the investment will run as high as $100,000,000. I know of just two manufacturers who plan a production of 20,000 each for next year. If the material situation will ease up a little there is every likelihood of a total production of 100,000 tractors for 1918—more than double this year's production.

The tractor, the automobile and the motor truck are and will continue to be factors of great importance in our country life. For our Dominion Department of Agriculture to take no official cognizance of this is a peculiar sort of blindness.

One man must be able to operate the whole outfit or else the tractor has no saving in it.

United Grain Growers, Limited

A Farmers' Company That Has The Backing Of 35,400 Shareholders And Handles Much Of Our Wheat

By NORMAN LAMBERT

FARMER'S MAGAZINE *readers will find in this article some data about the big farmers' movement in Western Canada. There is no more healthful sign of the times than the way co-operative work is bringing the farmers together. These farmers turned down $1.30 for wheat last spring and are now granted $2.20. On the 250,000,000 bushels in Canada that means $225,000,000 more in farmers' pockets because of united action among the farmers, and when the farmer has it, everybody else gets a slice.*—EDITOR.

ON September the first of this year, a new kind of business corporation was born in Canada. It was christened the United Grain Growers, Limited, and the place of birth and chrisening was Winnipeg. The child, which on appearing to the light of day, bore all the marks of health, strength and energy, was the result of a very happy marriage which occurred about a year ago between the Grain Growers' Grain Company, of Winnipeg, and the Alberta Co-operative Elevator Company, of Calgary. As a "Big Interest" this husky Western offspring promises to outpoint almost anything in the form of a corporation that has been produced in the old and experienced East. It is fabulously wealthy already, and its future in power and influence is as limitless to the interested observer as the very prairie itself.

Last December, the shareholders of the Grain Growers' Grain Company and the Alberta Co-operative Elevator Company held meetings, and approved of the proposal to merge the interests of both institutions into one organization. It was hoped at that time that the grain growers of Saskatchewan might also be prepared to have their Co-operative Elevator Company, and their Co-operative Trading Societies enter such a merger, but the heads of the Saskatchewan organizations decided to retain their own individuality, and not to place their affairs in a common pot with those of Alberta and Manitoba, under the management of one central board. So it came about that the farmers' companies located in Alberta and Manitoba undertook alone to create the new and larger unit that was to be known as the United Grain Growers, Limited. The Legislature at Alberta and the Dominion Parliament at Ottawa were both approached at their recent sessions, and arrangements were made to have legislation passed enabling the two participating companies to form a merger. It was then planned to have the United Grain Growers, Limited, commence business on September 1, the opening day of the new crop year of 1917.

The heads of this new Western farmers' organization are well known, by name at least, to the readers of the FARMER'S MAGAZINE, which has published from time to time sketches of these men. The President is T. A. Crerar, of Winnipeg, who for ten years was the principal executive mind in the old Grain Growers' Grain Company. He more than any other one man is responsible for the existence to-day of the united company. For five years or more Mr. Crerar has been earnestly devoted to the idea of an amalgamation of all the interests of the organized grain growers of the three middle Western provinces. He was the logical president of the new company. The First Vice-President is Cecil Rice-Jones, of Calgary, who for the past two years, has been the president and manager of the Alberta Co-operative Elevator Company. He also has been actively associated with Mr. Crerar in accomplishing the union of the various commercial interests of the Western grain growers. The Second Vice-President is John Kennedy, of Winnipeg, and the Secretary is E. J. Fream, of Calgary. The Executive Board will be composed of the President, the two Vice-Presidents, and the following members: R. A. Parker, of Winifred, Alberta; J. Reid, of Orcadia, Sask.; R. McKenzie, of Winnipeg; C. F. Brown, of Calgary; J. J. McLellan, of Purple Springs, Alberta; F. J. Collyer, of Wellwyn, Sask.; J. Morrison, of Yellowgrass, Sask.; H. C. Wingate, of Cayley, Alberta; and E. S. Austin, of Ranfurley, Alberta.

PRESIDENT T. A. CRERAR,
Mentioned in many despatches as possible Cabinet material in a National Government. He was farm born, homesteaded with oxen, organized locals for the farmers and then saw big business possibilities for them. He is succeeding.

PAID-UP CAPITAL $2,000,000

The United Grain Growers, Limited, has the backing of more than 35,400 shareholders, which are distributed over the West as follows: Manitoba, 9,000; Saskatchewan, 10,000; Alberta, 16,000; and British Columbia, 400. The authorized capital of the new company is fixed at $5,000,000; the subscribed capital amounts to $3,000,000; and the amount of paid-up capital is $2,000,000. There is also in reserve at present, $1,250,000. The head office of the company is at Winnipeg and other offices are located at Regina, Calgary, New Westminster, Fort William and New York.

The par value of the shares of the United Grain Growers, Limited, is $25 per share. Before the amalgamation occurred, the shares of the Grain Growers' Grain Company were selling at $30, which was $5 in excess of their par value. The stock of the old Alberta Co-operative Elevator Company sold at a par value of $60 per share. Under the charter of the new company, no person can own more than 100 shares, and at annual meetings, no person may have more than one vote. The man with one share and the man with one hundred shares have an equal voice in determining the policies of this concern. And there is also a provision against voting by proxy. The shareholders all belong to local societies, which in the language of the organized grain grower, are simply called "locals." These locals are established as a rule wherever one of the company's elevators happen to be located. Before an elevator can be built at any point, the shareholders who are to form themselves into a co-operative unit or society to support the United Grain Growers, Limited, must have at least 2,000 acres of land under cultivation for every 10,000 bushels of capacity in the

elevator. There must be at least 287 shares of the company's stock sold in a single local society, and there must be a minimum membership of 40 shareholders. The amalgamated companies, as a matter of fact, have to-day 330 elevators in operation, and the average capacity of each elevator is 35,000 bushels. The average membership of each local society in the entire organization is about 100 shares. When the annual meeting of the company is held in the head office at Winnipeg, delegates are sent to it from each local. One delegate, it is stated, shall be elected to attend the annual meeting from each local society unless a society enjoys a membership of more than 185 shareholders, and in that case the number of the delegates to be elected shall be two.

HANDLE MUCH OF CANADA'S WHEAT

Now, as to the business which is to be done by the United Grain Growers, Limited. The original and chief function of this grain growers' organization was to buy and sell grain, or probably it would be more exact to say to sell the grain grown by its shareholders. Therefore, in addition to the 330 country elevators which are spread throughout the West, the Company also has a large selling or commission office in the Grain Exchange Building at Winnipeg, terminal and hospital elevators at Fort William with a combined capacity of over 3,100,000 bushels, and an export selling department in New York. The volume of the grain business done by these various selling and distributing agencies of the United Grain Growers, Limited, is enormous. At the end of the big crop year of 1915-16 the interests which are now amalgamated handled through their commission offices at Winnipeg some fifty million bushels of grain. With the figures of the export trade in wheat and oats, as transacted from the New York office, the amount of the total volume of grain handled would far exceed fifty million bushels.

The co-operative marketing of livestock has become quite recently a large and growing department in the business of the two amalgamating companies. The Alberta Co-operative Elevator Company since its birth in 1913 has always had its livestock department, and the Grain Growers' Grain Company just last year introduced a similar branch into its offices at Winnipeg. Now, the united company has commission offices at the livestock yards in Winnipeg, Calgary and Edmonton. They handle stock principally on consignment. During the past year the business transacted by the offices of the organized farmers at these three stockyards amounted to a turnover of four million dollars. Cattle and hogs and a few sheep were represented in this annual volume of trade.

SUPPLY PURCHASE GROWING FAST

The co-operative supply department of the United Grain Growers, Limited, represents the purchasing end of the business done by the organized farmers, and is a growing feature of the whole co-operative movement throughout the West. At Winnipeg, Regina and Calgary, large warehouses belonging to the Grain Growers are stocked with supplies of all kinds which are bought direct from the manufacturer in Canada or the United States, so that the organized Western farmer may be able to buy his materials at the cheapest possible price. In these warehouses are kept such articles as farm machinery, binder twine, fence wire and barbed wire, lumber, posts, apples, salt, flour and feed. At all the points where elevators are located in Alberta there are also flour and feed warehouses. In addition to the supplies already enumerated, a vast quantity of coal is also purchased and distributed by the united farmers at the lowest possible cost. They have 165 coal sheds—120 in Alberta and 45 in Saskatchewan and Manitoba—with a capacity of 65,000 tons. As the membership of the organized farmers' movement increases, this work of purchasing supplies will develop into the most remarkable feature of the company's business. In the year ending August 31, 1917, the turnover of the two merged companies in their supply departments was over three million dollars.

THEIR OWN LUMBER MILLS

In connection with the co-operative purchasing of supplies for these Western grain growers, one of the large assets of the old Grain Growers' Grain Company was a fine timber limit situated near Fort George, British Columbia, on the main line of the Grand Trunk Pacific Railway, some 425 miles West of Edmonton. On it is at least 250,000,000 feet of spruce, cedar and fir timber. A mill is now being installed on this limit, and the new united company proposes to commence operating it in June of next year. The mill will be capable of producing 75,000 feet of lumber per ten-hour day, and will be used for supplying the grain growers of the prairie with building materials at cost.

In British Columbia the United Grain Growers have secured already quite a foothold, and the prospect is that in a few years the co-operative movement which has done so much for the people on the plains of the Middle West will embrace the fruit growers and the livestock farmers of the Pacific Coast province. The Grain Growers have their timber limit in British Columbia. They also purchase large consignments of apples and other fruit from that province, and at New Westminster they have a grist mill which supplies ten country agencies with feed for the livestock farmers of the lower mainland of British Columbia.

The last, but not the least powerful, asset which is possessed by the United Grain Growers, Limited, is the Public Press, which is now being domiciled in a fine, new building worth $110,000, on Vaughan Street, Winnipeg. The Public Press publishes the well-known journal, *The Grain Growers' Guide*, which now enjoys a circulation of over thirty thousand subscribers. *The Guide*, which has been the principal educational influence behind the grain growers movement in the West, is in no small measure responsible for the material prosperity which is now crowning the efforts of the commercial companies.

The creation of the United Grain Growers, Limited, brings to a close a most interesting and romantic period of ten years in the history of the organized farmers of Western Canada. Ten years ago, bravely flaunting its motto, "In Union is Strength," the Grain Growers' Grain Company set forth into the world of business with a paltry capital of $5,000. At the Winnipeg Grain Exchange, where this pioneer firm of farmers attempted to secure offices and a place on the floor of the Exchange, hostile opposition was manifested. Only after a memorable fight in the courts did the Grain Growers' Grain Company finally win its way solidly into the building where to-day it occupies the largest suite of offices in the Grain Exchange. The loyalty and perseverance of the fighting grain growers back on the plains as they tendered their individual support to their president and manager, T. A. Crerar, in Winnipeg, alone made success possible. The strong motto held true, and fostered and encouraged by the material gains which their company finally began to make at Winnipeg, the Grain Growers increased in numbers on the prairies, and developed their organization into a mighty educational and business force.

The Alberta Co-operative Elevator Company which has united with the Grain Growers' Grain Company in forming an amalgamation of the business interests of some thirty-five thousand Western farmers, did not have the same hard road to travel as the older organization. The Alberta company did not come into existence until 1913, when it began life with the provincial government as its partner and chief backer. It started with 52 elevators, and entered the amalgamation this year with 145. As a result of the splendid crops in Alberta during the seasons of 1915 and 1916, and with the

Continued on page 74.

THE SPIRIT OF THE FARM BUSINESS

It seems to me that in these troublous times we as farmers should exercise the utmost diligence in our work with conservatism in our farming practice and co-operation with our fellows in the marketing of our produce.

It should be our aim to crop a moderate acreage and to work it well rather than to seed more land than the labor likely to be available can care for and we should carry as much livestock as past experience has proved profitable, but we should be cautious in stocking up at the high figures that have been ruling at times during the past couple of years.

The older and inferior stock should be disposed of when the market is favorable, but discrimination should be used when making additions to the flocks and herds when feeders are purchased.

When it comes to the marketing co-operative shipments of livestock will generally be found to bring the best results besides bringing the consigners, who should take turn in travelling with the stock, a knowledge of market conditions that cannot but prove valuable to them in their business.

F. J. COLLYER,
Member Executive U.G.G. Co.
Houghton Farm.
Saskatchewan.

POISE IN COUNCIL

What impressed me most, in witnessing the meetings of the big farm organizations in Winnipeg, was the despatch, business methods, corporate determination and broad-minded toleration that pervaded the hall. The farmers here, in my estimation, are the clearest headed thinkers, and have the best expressed ideas and the broadest sympathies of any class of men in the Dominion. If they could run our Parliament for the country the whole nation would approach the closest to equitable guidance that it has yet seen.—EDITOR.

Better Farm Homes: By PROFESSOR L. J. SMITH

Third in the Series of Manitoba House Plans

IT was hoped that the Farm Home Competition would give some good plans of small houses, but very few plans were entered of homes smaller than 28 ft. by 30 ft. There is, however, a strong demand from the newly settled districts for a small modern home, and Plan "C" has been gotten out in the hope that it will meet this demand.

The small, two story house is the architect's most difficult problem, when one is anxious to secure a good external appearance, as well as economy. A study of the perspective of Plan "C" will convince the reader that the architect has solved the problem.

In working out these plans, the main effort was to secure as economical a house as possible without sacrificing convenience. The house is 24 feet deep, and has a 27-foot frontage, which will best face the south. The gambrel roof gives a pleasing appearance, and, at the same time, a very economical and compact style of construction.

The first floor has but three rooms. The large room across the front gives a convenient and comfortable living and dining-room. A fireplace in one end would add to the cheerfulness of the room, and under no circumstances should be omitted. The dining table can be run lengthwise of the room when it is desired to accommodate a large number, as at harvest, or a Christmas or New Year's dinner, and, by removing the table altogether, a large space is available for parties and other social gatherings.

The 9 ft. 8 in. by 10 ft. general purpose room off the living room will be handy for sewing, for use in case of sickness, or when visitors come, and for various social events. It also affords a good quiet place to put the youngster for his daily nap, and thus avoid climbing to the second floor. If desired, it can be used as a regular bedroom.

The front hall and stairs are generally unnecessary in the small country home where the front door is not used to the extent that it would be if it were a city home. The stairs rise directly out of the centre of the living room, and are much more convenient to the kitchen than the ordinary front hall stairs. It also makes a very convenient arrangement for the cellar stairs. Four steps lead from the kitchen down to a landing which has an outside door at ground level. By this arrangement anything going into or coming out of the cellar does not have to pass through the kitchen. The advantages are obvious. The cellar stairs lead to about the centre of the cellar, making all parts equally accessible, and allowing for an easy arrangement of the basement. A full basement should be planned for. In it will be placed the furnace, wood and coal storage, a vegetable room, fruit storage, soft water tank, pneumatic tank and pump, the lighting system, space for drying clothes in winter, and laundry and dairy arrangement, if desired. A basement can be far better utilized than an attic space, and is much more accessible.

The kitchen is not large but is conveniently arranged. The sink is in the proper position for washing and putting away dishes, and is conveniently located for use in cooking.

The outer kitchen door is planned to have glass in the upper half. The position of the doors and windows makes possible plenty of ventilation to keep the kitchen cool in summer, a most important consideration.

The large kitchen porch will be especially appreciated in summer. Here, out in the cool, fresh air, a great deal of the kitchen work can be done; here, also a table can be provided, and the family can eat their meals outside in warm weather. A summer's experience of this sort makes one very loth to eat inside even when fall comes.

No house is considered modern in these days unless it has a sleeping porch. This can be provided above the kitchen part by having a door off the bathroom. It is planned to have a gas-pipe frame work upon which canvas may be stretched for protection from the weather, while the sleeping porch is being used. Some might prefer to have the door to the porch open off the adjacent bedroom, rather than off the bathroom.

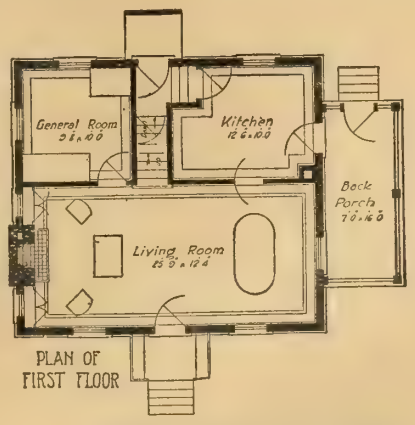
The upper hall is three feet wide and does not take up much space. The window at the stair landing gives ample light and ventilation. A linen closet is provided for, off the hall.

A large bathroom is conveniently located at the head of the stairs, and being above the kitchen, is most economically located from the plumbing standpoint.

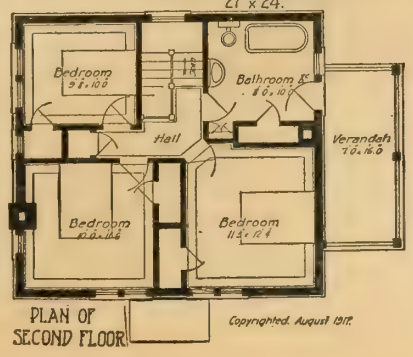
There are two large and one small bedrooms with ample closets which will appeal to the housewife.

To many, the plans might seem lacking in bedroom space. The room on the first floor can be used by the family when visitors come, for the modern davenport is an equally good bed, thus the old spare bedroom is dispensed with. Then, again, often the farm hands live in a separate house, or the hired man may be married

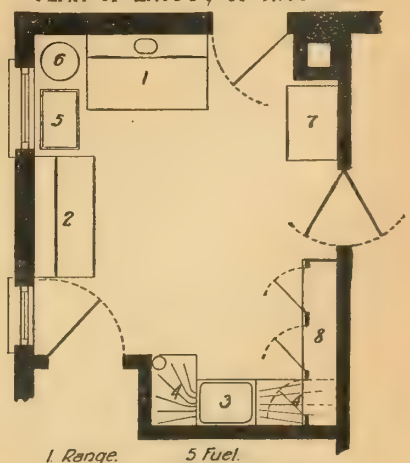
Continued on page 13.



MANITOBA AGRICULTURAL COLLEGE
PLANS OF FARM HOUSE "C"
27' x 24'



PLAN OF LAYOUT OF KITCHEN



1 Range. 5 Fuel.
2 Cabinet. 6 Hot Water Tank
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4 Drain boards. 8 Cupboard

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Editorial

WHY not a tractor mobilization?

FALL plowing is less than usual.

PRICE fixing is wrong—it's one sided.

ANYWAY we are all glad that potatoes are plentiful.

A BILLION Dollar Field Crop—the farmers have responded well.

GERMANY, they say, is cultivating intensively and methodically.

TOOT-and-be-darned—has the Dominion Agricultural Department adopted this motto?

THE farmer and the industrial worker should pull together. Their interests are common.

HAVING stated times for paying the farm hired help would work out better for all concerned.

HOW are we going to get rid of Mr. Hanna's too many middlemen without a radical change in methods?

IMPLEMENTS and farm machinery will probably figure in the win-the-war equally with rifles and shells.

WHERE has government intervention in economic and industrial situations helped matters? Name the place.

EVERY farmer should know the costs of producing his products. He is then in a position to argue with reason.

CO-OPERATION in production and consumption seems to be working out well in the case of the new United Grain Co.

THE farmer's income does not arrive as regularly as a government official's. He has moons, weathers, insects, markets and accidents to consider.

OLD implements are being overhauled by the farmers as never before. The lesson of this thrift is a good one. There is too much machine waste.

AGRICULTURE permits its votaries to retire in old age. Industry requires its victims to work until they drop. So says one city journal. Rather should it read—that agriculture permits its people to live to old age. Industry has a different story.

A PRODUCTIVE SUGGESTION

THE Creston Board of Trade in British Columbia is to be commended upon their suggestions to the National Service Board of Canada. They are taking up with them and the Provincial Legislature, a comprehensive scheme for providing employment for returned soldiers. Briefly stated the proposition is to reclaim 25,000 acres of land in the Kootenay River Valley. An inland delta of rich alluvial deposit is formed at the southern extremity of the lake. The soil is wonderfully fertile and the land is on the Crow's Nest line of railway, with good highways and enjoys every educational facility. The climate is ideal and such soldiers as wished to farm could have first consideration. It is stated that there reclaimed lands would be capable of carrying 20,000 to 30,000 head of dairy stock. Ontario has been doing some such work in Northern Ontario. It is a productive expenditure and, therefore, a wise one.

THE BATTLE HYMN OF THE REPUBLIC

MANY Canadians will be interested in the celebrated battle hymn of the Republic written by Julia Ward Howe at the time of the Civil War. And insomuch as it does not contain any colorful words such as slavery, secession, rebellion, or even America, it can be used by all free peoples. We quote it for the benefit of our readers.

Mine eyes have seen the glory of the coming of the Lord:
He is trampling out the vintage where the grapes of wrath are stored;
He hath loosed the fateful lightning of his terrible swift sword;
His truth is marching on.

FULL CHORUS—

Glory! glory! Hallelujah!
Glory! glory! Hallelujah!
Glory! glory! Hallelujah!
His truth is marching on.

I have seen him in the watch-fires of a hundred circling camps;
They have builded him an altar in the evening dews and damps;
I can read his righteous sentence by the dim and flaring lamps;
His day is marching on.

I have read a fiery gospel, writ in burnished rows of steel:
"As ye deal with my contemners, so with you my grace shall deal;
Let the Hero, born of woman, crush the serpent with his heel,
Since God is marching on."

He has sounded forth the trumpet that shall never call retreat!
He is sifting out the hearts of men before his judgment seat:
Oh! be swift, my soul, to answer him! Be jubilant, my feet!
Our God is marching on.

In the beauty of the lilies Christ was born across the sea,
With a glory in his bosom that transfigures you and me:
As he died to make men holy, let us die to make men free
While God is marching on.

THE MILK-SELLING FARMER

TOWNSPEOPLE have been blaming the farmer for his supposed greed in demanding $2.50 per can for whole milk. Mayors and other elected people have been voicing similar unkind things, whereas a little consideration of the situation would show the fairness of some increase in price as just distribution of profits. The fact is that hundreds of farmers in Canada have sold off their cows and further sales are contemplated. If these men who supply the cities with milk found it so profitable why would many forsake the business? It must be remembered that

milk production demands a highly organized farm, expensive equipment, long hours and high priced labor and expensive imported feeds. Unwise regulations emanate occasionally from city authorities that drive men out of the worry of the business.

Some time ago the Cleveland Chamber of Commerce made a survey of farming conditions in the dairy communities tributary to that city. It was found that a loss of more than $2,000,000 per year was sustained by those farmers in the prevailing prices of milk based on the elements that the business man would consider in the conduct of his business.

Whereas those places in Canada where milk or cream is being supplied to creameries, condenseries and cheese factories, and where livestock is kept also by the aid of the skim milk, the farmers are much more prosperous. They get a beef cattle and hog revenue with their farms fed up in fertility.

In the case of the Milk Producers of Ontario, who are demanding $2.50 per can at Toronto, the claim is made that the price of $2.30 to the farmer, who has to pay the freight, is little enough, since, as R. W. E. Burnaby says it costs $140 to keep a 6,000-lb. cow for a year. This leaves the farmer about $12 for his labor. If the price is regulated by the Food Controller, by all means let us have a fair deal and the raw materials on the farm, as boots, cans, wire, harness, clothes, doctor's fees, machinery and other things regulated in price as well. The surest way for the people to get a milk supply is to force hundreds into the business of producing by the lure of the money there is in it. $2.50 a can will do it—it will be an easy way to that end. Economic adjustments of supply and demand work honestly and fairly where there are no restrictions and favors.

75 LOAVES INSTEAD OF 50

BREAD is in everyone's mouth these days. It does not yet seem that the quantity per mouth, or the quality, has diminished or deteriorated, in any way, so great is the force of the bread habit. And this, in spite of many warnings sent out by the authorities as to the coming scarcity, which warnings are generally unheeded by the mass of honest citizens, I am afraid. The habit or instinct for bread is of too long standing to be lightly interfered with, having come to us through long lines of generations stretching away back into the pre-historic past, to the time when our forebears baked powdered seeds and water on a fire of coals, seasoned, it may be, with a chunk of *Anoplotherium,* and backed up against a rock or tree for greater security in eating. This early precaution, according to the *Bookworm,* has also become an instinct in civilized humanity. "As witness," says he, "a tea shop or a lunch room, the patrons instinctively choose first the seats with a pillar or wall backing, the prehistoric precaution not to be taken unawares from the rear and despoiled by an enemy, being evident." This deduction seems reasonable, especially in the light of the evolutionary theory.

At the present time there is a wide-spread interest in the question of white flour versus whole-meal bread, and also home-made or baker's bread. I will not enter into the chemical and food values of the different brands; the carbo-hydrates, albuminoids, molecular formation, water, etc., lest someone confuse these things with some new disorder of the body, and straightway imagine they have it. As the Food Controller orders, so we will have to use whole-meal or mixed flour. Suffice it to say that a Director of the Danish State Laboratory of Nutrition Research, after careful investigation, has proved that a monkey will die in a few months if fed on bread made from refined white flour only, while if fed on whole-meal bread, he will keep up a continuous and indefinite chatter, during the span of his simian days.

Will it pay to bake at home? Well, here is the result of careful tests made in our home before the advent of the Pledge Card. Good white flour only was used, and all ingredients, viz: flour, potatoes, yeast cake, salt and bread improver were weighed to a grain, and charged for at the regular price. The gas meter was read before baking and after, and the amount consumed was duly entered and charged for. No sugar or shortening were used in the bread, nor was any allowance made for work in connection therewith; time being thrown in, against the extra quality of home-made as compared with baker's bread, which latter is dry tough eating after one or two days, while we have kept home-made bread fresh and palatable for a week. For the quicker grasp of the situation the result is given in money values, and details of weights and prices of the minor ingredients being omitted. Reckoning the price of good flour at $12 per barrel—$6 per bag of 98 lbs., it figures:—

Baker's bread costs for 1½-lb. loaf..... .11c
Home-made bread for same size loaf.... .07¼c

In other words:—

$5.50 will buy of baker's bread .....50 loaves
$5.50 will make of home-made bread....75 loaves

In the country where potatoes and fuel would not be reckoned the profit would be even greater.

There is a certain satisfaction and sense of independence and elation in being able to provide the staff of life within the walls of home. In after years no matter how many, when the tousled heads are sprinkled with gray, the flown years will never have covered up the memory of baking day and of mother's home-made bread. By F. R. J.

A typical Canadian farm home in Eastern Canada.

Oats, Hogs and Horses: By JOHN W. MARQUIS

How Charlie McArthur, of Alberta, Gets Over the Labor Problem and Makes the Farm Pay

ON an Ontario farm in Nelson township was raised Charlie McArthur, owner of a half section of land near Trochu, Alberta. He went West in 1900 and homesteaded. This homestead he sold and then purchased the one he now lives on. He does not go in for general farming, properly speaking, but specializes along three lines — oats, hogs and horses. He does not keep more than a couple of cows, a couple of head of beef cattle, and a small flock of hens, ducks and turkeys.

He believes that he has a system of farming that brings him the maximum profits with the minimum amount of labor.

Charlie McArthur with his young son, standing on the prairie sod, while his 5 horse-team breaks the last piece of virgin soil on his farm. No wonder he enjoys life.

To a question from a FARMER'S MAGAZINE correspondent, he replied:

"I keep from 8 to 12 breeding mares and a stallion, all Percherons. They are good general purpose mares weighing from 1,150 to 1,350 pounds. The colts with their dams run wild on a portion of my farm, and are never handled until I am ready to sell them."

"Do you give them any special care?"

"None whatever, they rustle for themselves. Of course they have the strawstack in the winter time, but they have no stable or shed for shelter, and they stand the winter well."

"Have you much trouble in breaking them?"

"I do not break them all, but when I undertake to break one, I drive him into a corral with a V point. When I get him at the point of the V I slip a bar in behind him from fence to fence. Now he is fast, —he can neither go ahead, back up, or turn around. I climb up on the side of the fence and put a strong halter on him, and tie him to a post. Then I take the bar away from behind and let him pull till he is tired. I then tie him back to another post and give him 'more rope,' and again he pulls and tugs till he is tired. By this time he allows me to harness him, after which I lead him out and tie him to a hitching post. I bring a working horse up by his side and push a sleigh tongue in between them and hitch them up together. Then I get inside of the sleigh box with a firm hold of the lines. My assistant now unties the colt from the hitching post, and I let them run as fast as they like and in any direction they like through the farm, until they begin to get tired out, when I commence to control them with the lines. In this way it does not take long to break him."

"At what age do you sell your colts?"

"Anywhere from one to four years of age just as there is a demand for them."

"How much do you realize from the sale of your horses?"

"From $800 to $1,000 a year; and I regard that as nearly all clear profit, since they cost me nothing for feed, and practically nothing in the way of labor and attention."

RAISING HOGS WITH A COAL STOVE

"You raise a lot of hogs, Mr. McArthur?"

"Yes, around 100, I have sold as many as 150 in one year."

"I understand that you have some labor saving devices in connection with your hog business. Would you mind explaining your method?"

"Not at all. I keep my hogs in a five-acre lot seeded down to clover, peas, or some other kind of green feed. As soon as the pigs are weaned, I put them in this lot. In this lot is a sleeping pen 20 feet square with an open doorway so that the pigs can run in and out at will. I put a load of straw in the pen. I have in this lot two self-feeders—hoppers—which I made myself. They are each eighteen feet in length. The feed is put in at the top and comes out at the bottom at both sides into troughs just as the pigs need it — that makes 72 feet of trough for the two feeders. I fill these feeders up with meal once a week. A stream of water runs through the lot from which the pigs can drink at pleasure. In the cold weather I keep a coal stove burning in one part of the stream, which keeps it from freezing over at this point so that the pigs can always get water to drink. I give my hogs all the coal that they need. One hundred hogs will eat about five tons of coal in a season."

"The self-feeder is certainly a labor saver, but do you not think that the pigs eat more feed by having it constantly before them in this way?"

"No, I think it is just the other way. When they know that they can get feed whenever they want it they never gorge themselves, they never eat too fast, nor too much, nor get too hungry. With easy and constant access to meal and coal their digestive organs are kept in good shape. They do well because they are healthy and contented. You may go into their lot any time of the day, and you will find them all contented, but doing different things. Some will be sleeping in the pen, some eating from the feeders, some rooting in the ground, some eating green food, some eating coal, and some drinking water. I really think that hopper-fed pigs eat less feed than those that are fed three times a day; but the chief benefit is in the saving labor. To feed them once a week only requires but an hour or two of time, but to feed them three times a day and swill them would take up half the time of an extra man."

"Which do you find the cheaper, to raise your own pigs or buy them?"

"That depends upon prices. I raise most of my pigs. I keep from 12 to 20 brood sows. My old sows raise two litters a year, and the young ones but one. When I have some feed left over it pays me well to buy some shoats to eat it up."

"What breed of pigs do you favor?"

"I keep Berkshire and Yorkshire sows and a Berk boar. I find that stock raised from a York sow crossed with a Berk boar has paid me best."

"What weight do you make your hogs when finished?"

A $1,100,000,000 CROP

In the weekly summary of the crop situation in "The Financial Post," the editor of the FARMER'S MAGAZINE *says:*

"We are now in a position to estimate fairly closely Canada's contributions to the world's food. The results are gratifying from every standpoint, except possibly that of the consumer, and he has not much to complain of, when his own food costs will rise and fall as he manages wisely or loosely in his menus.

"Summing up Canada's total yields, as reported from the various provincial and federal bureaus, with a variation as seems needful from previous actual results in certain lines, we find that the money value of our field crops this year will easily surpass the billion mark, and that without taking into account the pasture lands, the fruit returns, tobacco, clover seed, hemp and other small scattered crops. It sums it up as follows, reckoning the values from current prices, as quoted in the markets this week (000's *omitted*): *Wheat,* 475,000; *oats,* 233,280; *barley,* 58,620; *rye,* 6,059; *peas,* 5,488; *mixed grains,* 16,310; *beans,* 6,336; *buckwheat,* 5,000; *flax,* 14,000; *corn for huskers,* 7,000; *potatoes* 50,000; *roots,* 16,000; *hay and clovers,* 160,000; *fodder corn,* 10,000; *sugar beets,* 600. *This totals* $1,063,600,000. *It is quite within the mark to place the crops at* $1,100,000,000, *the greatest price returns the country ever saw."*

The man who will wisely go into hogs now, purebreds so as to get a double market, will be the winner out in good and dull times.

"From 200 up to 250 lbs."

"About how much is your annual income from this source?"

"It varies from year to year according to the number of hogs I sell and the prices I get for them. From this part of my business I get from $1,000 to $2,000 a year. Prices here are from one to two dollars lower than Toronto prices."

"With the present prices of grain and hogs, which pays better—to sell grain or fatten hogs?"

"Not much difference so far as wheat and oats are concerned, but for barley it pays big to feed it to hogs. Before the war boosted prices, I fed a considerable quantity of oats, practically all of my wheat, and all my barley; but I am now selling most of my oats and wheat. In addition to what I have fed, I have always had from one to three car loads of oats to ship."

"Do you feed grain whole or get it chopped?"

"Oh, I always get it chopped. I hire a man with a gasoline engine and a chopper. He sets his chopper up in my granary, and finishes the job all up at once."

"How do your crops look this year?"

"Not so good as last year. Last year I had a bumper crop, but this year it is only fair, having suffered from the dry weather. Last year I put up 50 tons of hay and harvested a bumper crop. I had a lot of trouble to get it off, but I got it. The ground was so wet that the binder would not work. I had to get a gasoline engine to put on my binder in order to cut the grain, and even then it pulled my horses down in flesh tramping through the soft ground. The engine cost me $225, and $15 for gasoline and oil; but without the engine I would have lost most of my crop. In about three weeks' time I managed to get part of it threshed so that I could start the ploughs going. Later on when the machine was threshing for my neighbor it broke down for the season, so with most of my grain still in the shock and no threshing machine in sight I was up against it again. I hired the crew belonging to the machine that broke down, consisting of 12 men and 8 teams with wagons, hayracks and forks, and went at it and stacked the rest of my grain up. It cost me $50 a day and board for men and teams. The next day after we finished stacking there came a big snow storm which stopped threshing out of the shock for the season. So didn't it pay me well? I succeeded in getting a machine to pull up to my stacks, and so got my grain threshed. It turned out well, some of my oats went 80 bushels to the acre, but the barley was not so good, as it was hurt with the frost. I sold 350 bushels of oats for seed, kept 300 or 400 for my own seed, and 700 bushels for feed, besides three carloads that I shipped."

"Have you suffered any from the scarcity of labor?"

"I can't say that I have. With my system of farming I can get along with very little help. Labor-saving devices, big machinery, with lots of ambition solves the problem. I had my nephew hired for the year, but he was taken sick and not able to help with the spring work. I had eight horses in the stable in good shape for the spring work. When I saw that the boy was not going to be able to work, I turned two horses out, and worked the six myself. *And the way I worked them was not slow. Every day that I plowed, I plowed five acres; every day I harrowed, I harrowed fifty acres; and every day I sowed, I took out my own seed grain and sowed twenty-five acres and sometimes more.*"

"That sounds a bit Western, Mr. McArthur."

"Well, it may sound impossible to Ontario farmers, but with a harrow thirty feet wide, a drill twelve feet wide, and a plow that turns twenty-eight inches at a time, it can be done with six good horses and a man that is not afraid of work, and I did it. It was a late spring, and the crop had to go in, and it was up to me to put it in alone, too. I put in about 146 acres of spring grain, and did it alone."

Mr. McArthur is a handy man. He has one of the finest farm houses between Calgary and Edmonton, and he built it himself. He does his own carpentering and his own blacksmithing, and keeps everything about the place in good repair. He figures that the use of his brains is worth more to him than extra hired help.

BETTER FARM HOMES

Continued from page 9.

and live in the old house and board the other men, thus giving more privacy to the owners of the farm, and lifting a big load from the shoulders of the housewife.

With a large house on the farm, the time often comes when the young people have gone to homes of their own, and then the big place with its extra rooms and upkeep becomes a burden instead of a pleasure.

Working drawings, showing front and two side elevations, sectional elevation, basement plan, exterior details (6 sheets, 14 in. by 24 in.), together with specifications and bill of material, can be had by writing the Department of Agricultural Engineering, Manitoba Agricultural College, Winnipeg. This material is sold at a nominal price with no intention of securing a profit, but to cover the cost of the reproduction of individual copies. The cost to applicants residing in Manitoba is $3, and for those residing elsewhere $5. Applicants, when sending for this material, should allow plenty of time for the getting out of copies of the specifications and bills of material.

Plowing Match Coming

Bills are out for the big provincial plowing match at Brantford on October 24-26 next. This will be held, as previously announced, on the farm of W. G. Bailey. It will include a demonstration of Hydro-Electricity, which is now being used on the farms locally.

Dairying Efficiency

Some Ways to Make Savings in the Feed Bins and Stables

By ROBERT M. HOLTBY

The writer of this article is one of the most prosperous farmers in Central Ontario. He owns a big herd of high-producing Holsteins, is interested in farm movements, and is on the executive of the Farmers' Dairy Co. His farm is on high land overlooking the pretty little Lake Scugog.—Editor.

With the high cost of labor and feed this year, our attention as producers of dairy products must be more especially directed to 1st To cows' producing ability; 2nd, to feeding of feeds that are nutritious and relatively low in price; and 3rd, to labor saving machinery and stable conveniences to save time and labor in attending the cows and other stock.

1st, cows that produce less than 8,000 lbs. of 3% milk or its equivalent should not be tolerated. The beef market is good for all such. The money can be invested in cows that with proper labor and feeding will produce from 10,000 to 20,000 lbs. of milk in a year and leave more clear profit labor and feed considered, than 3 cows producing from 8,000 lbs. down.

They need not necessarily be purebreds; good grades of the proper breed will pay for all feeds and attention, leaving a good balance.

2nd, feeding operations are generally carried on so as to make the home grown feeds figure out to supply the needs of all animals stabled during the winter and if feed is scarce and animals many, it is parceled but to come out even. High producing cows are not found in these barns. In many cases it will pay to sell part of the oats and other grain and buy cotton seed, oil cake, gluten, distiller's grains, etc., and the cows feed according to their individual needs and capacity.

If all are fed say half gallon oat-chop, all will produce about the same amount of milk if they have freshened about together, but if the grain ration is increased gradually differences in production will be noticed more quickly than if cows are thin, as nature looks after the cows first and the milk afterwards.

We find that cotton seed meal fed with equal quantities of oil cake in winter and with a little bran in summer, to make it palatable, is the cheapest feed on the market; but there is nothing better than oil cake.

In ordinary feeding of cows we consider 1 ton cotton seed is worth 4 tons of oats, 1 ton oil cake or distiller's grain, is worth 3 tons of oats, 1 ton gluten worth 2 tons of oats.

Cotton seed is usually considered dangerous. After feeding it some 4 or 5 years and as much as 25 tons in a year we have yet to see any bad results.

We do not consider 6 lbs. of cotton seed per day to fresh cows heavy feeding mixed with other feeds.

3rd, water in front of the cattle saves as much time perhaps as any barn convenience. Cow's milk better, do not take too much water causing digestive trouble, while the turning of them out and tying in saves a great deal of time and abuse, if some short tempered herdsman does the work.

Feed carriers and litter carriers also save labor but perhaps no other labor saving machine will be more appreciated than a mechanical milker in herds of 12 cows or more. After three years' use of a milker we still have to find bad results from its use, though every cow will not give down all her milk but you get it when stripping which we always do but in some cases is not necessary.

The feeding of beef cattle has always had a fascination for the farmer. Perhaps it is because there is so much risk in it. Many lose and many make money. And in the handling of cattle the ability to buy right, to sell at the proper time, and to discard scrub stock, are the leading points in success. The spread between well finished cattle and thin stock was never greater than to-day. Xmas feeders should pay well.

The Mission of Sweet Clover

A Nitrogen Gatherer That Grows in Any Soil and Supplies More Protein Than Alfalfa

"It will put heart into your poorest field. It whips up the lagging energies of soil. You can grow anything after a crop of sweet clover."

Geo. Brodie, B.S.A., farmer, horse-breeder, citizen, lives on one of his three farms that adjoins the pretty little town of Newmarket, Ont. From his house you look on rolling meadows, rich uplands, trout ponds, virgin woods, distant colleges. Sir William Mulock's walnut grove, shows fancy farm buildings, and a hundred big barns on prosperous neighboring farms, while Mrs. Brodie is a member of the Provincial Food Control Committee and as such is giving her services towards settling some of these vexed questions from the real farm viewpoint. There should be more of her kind on the committee.

But to revert to our subject of sweet clover. Mr. Brodie has been growing a yellow strain of sweet clover, called by the persons who are popularizing it—Albotrea. He has 100 acres of it this year, in pasture, hay crop, and for seed purposes. A recent walk over his farm revealed the reasons for the faith he has in this clover. One leading reason we have given in his opening words. The next is that everything eats it, likes it, and thrives better on it than on other feeds.

Being a large shipper of milk that is cooled in a cement built milk house to which water flows from an artesian well, he pastures his cows on sweet clover and natural bluegrass. From 15 cows his milk yield showed a loss of a can in 3 days when the cows were taken off the sweet clover. And, in this regard, he says it beats alfalfa for milk, and Mr. Brodie has been growing alfalfa for 25 years. In one big field half in alfalfa and half in sweet clover, this year's seeding, a vigorous stand of both clovers was seen.

In reply to a question as to the life of the plant, he says that he has cut the first crop with an ordinary mower without shoes on the bar, and did not kill it. However, the plant is a biennial and once it produces seed, it dies,

"Hard to kill? Well no, besides who would want to kill it out? If it is present in all the soil you are sure of a nitrogen gatherer of first importance." He stooped and pulled up a young plant, and on the long 10-inch root, there hung several nodules of this nitrogenous matter. That is seldom seen on a young alfalfa plant.

In the barns he has some 45 acres cut for seed which he expects will yield 8 to 10 bushels per acre. From another field of 7 acres he took in some 20 loads of hay.

This particular clover is a selection from the common yellow clover and is vastly superior to the ordinary coarse white variety seen in many sections.

Fixing Prices Wrong

The pity of the situation is that price fixing is a marsh light leading Hoover off the true trail, says Agnes C. Laut in the *Financial Post*. What was needed was not price fixing of food. It was distribution of food from producer to consumer. That was Hoover's real job. If he were able to put it over, he would be the next president of the United States; but he has missed it following the delusions of price fixing, which at best can never be more than a compromise that satisfies neither side and accomplishes less than nothing—as to wit—wheat, bread, coal, copper to date.

The Mission of Farm Machinery

A Farm Machine Manufacturer Thinks The Future Will Be Crowded With Orders

By F. C. MACKENZIE

FARMING is at the bases of the world's life, and in one sense it becomes, therefore, everybody's business. Particularly is it the mission of everyone connected with the farm machine business. To improve this basic industry is their real reason for existence and unless they can contribute something to the work they hold no brief for consideration.

So far, we, as manufacturers have only cut the outside swath of the field. Farming as it is conducted in many parts of the world, is only a crude, wasteful operation, when we look at it in the light of an efficient, well-equipped modern farm. Much therefore remains for science and art to do in order to make production to increase and the farmer to enjoy his work in a greater measure of bodily comfort.

Further, I feel when it comes to a reorganization of the world, that the only place to get wealth will be from the land, the sea, and the air. There is little to be gotten from the air, and we are so close to the land that we get our first whacks at it.

In the getting of these values, farm machinery plays an ever-increasing part. Hitherto, the making of improved or even any kind of machinery, has been confined to three countries—Great Britain, United States, and Canada. Germany with all her wealth never did make any farm implements such as seeders, drills, cultivators, binders, mowers, etc. These they must have if they are going to get real values out of the soil.

It looks almost axiomatic to me that the demand for farm implements of all kinds following closely on the heels of this terrible war, will be greater in volume and more important than anything we have yet witnessed. We have not enough factories nor men to handle the situation. Stocks in every line are depleted. The raw materials are scarce and hard to get. These, in turn demand

A big plow gang left to rust out on a prairie farm.

a replacement of men that are not there. It is impossible for us to go ahead destroying wealth, without a following close in its wake of a tremendous demand for bridges, locomotives, vehicles, building materials and implements.

Some scout this idea as being the wished-for occupying the place of the real. They say that people will be too poor to buy. I can't see it that way. In times of national stress governments find ways; they blaze trails; the people demand and will force their best leaders to the front who will find ways and means to keep a progressive age moving along. We can't afford to retrograde with needs of humanity so imperative, with people of this age alive to industry, with ability to suffer, and with the poise that can await results.

During recent times the type of implement for the farms has changed little. The greatest question of the day is power. Depleted man and horse power call loudly for mechanical solution, and the popularity of gasoline and tractors is evidence of the need. You cannot force on an unwilling soil worker any new machine, no matter how ingenious it is, or how it saves human labor. The fact that farmers are calling for power machinery and are willing to purchase implements that will stand up and *carry on,* shows clearly that manufacturers for once, linger behind the demand. Power that can be controlled and operated from a throttle or a wheel, enables even a somewhat crippled man do the work of two, three or four able-bodied men, and therein lies our hope from starvation. These returned soldiers can become useful as operators of machinery in many cases. The farmer himself, shorthanded, can do the work of his whole staff beforetimes, if the power appliances can hook up to our present lines of well-made and efficient farm implements. Already discs, drills, plows, harrows, cultivators, seeders, haying machinery, binders and transport trucks, are made suitable for all purchases. They can be hitched up to a tractor as easily as to a team of horses. The hitch may take a little brain power in experimenting. But given the power there will not be enough implements in store to begin to supply the demand.

This article represents an interview with a big man near the top of one of Canada's biggest farm implement plants. He foresees big demands for implements.

North America, and Canada particularly, holds a wealthy soil within its boundaries. Production from these fertile lands can be enormously multiplied by machinery and better methods.

90% OF MACHINERY MADE BY THREE COUNTRIES

Heretofore Canada, the United States and Great Britain have been making fully 90 per cent. of the world's farm machinery and these have been recently gaining entrance and forcing their operation in many European and Asiatic countries. Russia alone had been getting about 25 per cent. before the war. That business, of course, is largely stopped. Germany, Austria and Turkey imported American

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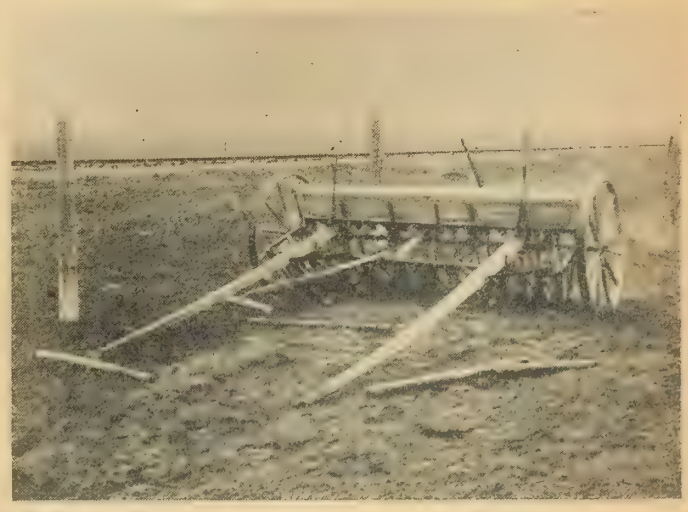
An actual case of neglect of valuable farm machinery on a Manitoba section.



High class farm implements wear out more in one season outdoors than in 5 years' use.

A Frank Talk About the War

Some Events That Went Before—What We Must Do Now

By JOHN BAYNE MACLEAN

This is the second in the series of talks by Col. John Bayne Maclean that have appeared in MacLean's Maagzine. We have the privilege of reprinting them here. Farmers have written in saying how much they appreciate the frank discussion. A third article from the October MacLean's appears on another page of this issue.—EDITOR.

SOME time ago I pointed out that our national obligations approached $2,000,000,000. It was regarded by many as pessimistic.

Last week the head of one of our largest financial institutions gave me figures that had been compiled for him. They are staggering — $4,500,000,000. This means, we are sending out of Canada $180,000,000 a year—$500,000 every day —interest alone on our borrowings. Half this amount, he figured, was wasted, through incompetence and politics; in railway building, unnecessary duplications, municipal and other enterprises—fancy pavements, sewers and sidewalks, on miles of unoccupied streets, public ownerships.

Add to this the war taxes, now in sight, and it looks like every head of a family paying $250 a year out of his wages or income for these purposes alone.

ONLY PROVED MEN WANTED NOW.

Ever since September, 1914, when it was evident they were incapable of grasping the frightful situation facing us, I have argued persistently for a reorganization of Imperial and Canadian Governments. To take in the outstanding men, who had proved, by their careers, they had the capacity to understand; to do big things; and to get big things done. These are, of course, not the only men in the Empire with great executive ability. There must be thousands of equally good men, but they have not yet proved themselves. This is not the time to try to train them. The situation is too urgent, that we must call in, only our proved men, for our big jobs.

All the information I have leads to no other deduction than that, if there had been resourceful, practical business men, men who had worked their way in the world, at the head of affairs in the various nations instead of *dilettante* diplomats and the hereditary, idle rich, weak politicians, there would have been no war with its frightful waste of life, suffering and loss of property. If, in England, we had had a Government of Lloyd Georges, instead of the Asquith-Grey-Churchills, and their favorites, things would have moved intelligently, quickly. We would not always be too late. The war would have been over long ago. The delays gave Germany time to prepare for the greater struggle. The Kaiser has used his greatest business men. They had two years' supplies in store. The criminal neglect and cowardice, of the British ministry, enabled them to lay in another three years' supplies. For example, at a most critical time in 1915 the inner British War Cabinet did not meet from March 19 to May 14. Lloyd George's cabinet sometimes has three meetings in 24 hours.

As Sir George Paish recently pointed out in *The Statist*, the continued failures of our leaders—though backed up by our magnificent armies and navies, aided by the poor strategy of the Germans—are shockingly disgraceful reflections upon our capacity, considering our superiority in men and money. Prof. Ogg places this superiority at 977,929,875 in population as against 177,964,200 for Germany and her Allies, and our wealth, as $415,000,000,000, against our enemies' $113,000,000,000.

THE SELFISH INTEREST OF RUSSIA

And the worst feature of all, is that the two nations — Britain and Germany — which least wanted war will suffer most. The nation that inspired the war—Russia—the only important possible enemy at that time common to both, will gain most; and now drops out and leaves us to our fate. Russia is the one country that has shown real cleverness. She cultivated France and through France secured British interest—borrowed our money, drew us into the alliance. She actually turned millions of English funds, that were flowing steadily into Canada, into Russian channels. Of this I have personal knowledge. I will give some details in a future issue. She had England working enthusiastically for her long before the war. She mesmerized the guileless Asquith, and that cocksure incompetent Churchill. She wanted her wheat out through the Dardanelles. Churchill, going contrary to all expert advice, and without waiting for Cabinet sanction, personally wired the Czar that Britain would force the Dardanelles. That Russia had little faith in the outcome was proven by a letter received by one of their own officials ordered temporarily to Toronto in 1915-16. This letter also stated that Russia planned to have their own port in the Mediterranean, that they could not trust Britain or France to give them the Dardanelles. Their army was working round. Alexandretta was the port selected. This was weeks before any word came of that army, which did so well for a time. Shortly after in an article I wrote for *The Financial Post*, Canadians were warned to go slow in their business dealings with Russia, which might ere long make a separate peace.

Do not misunderstand me, I am not referring to the present Government of Russia and I have not said that Russia started the war. Germany did. Germany forced the war. She probably decided on it in 1912. She forestalled Russia by one year. Whether Russia intended to fight I cannot say. Whether Germany was wise in starting I doubt. Bismarck was once asked whether, in case Russia and France formed a combination, would Germany attack first. His answer became famous. Condensed it was "No." Further, German swelled-headedness, her offensiveness, the domineering brutal way in which she dealt with Russia, when the latter was weak, may have given her ample ground for preparing for war. Still further, Britain did the only possible thing in going into the war. We had to go in, and we have to stay with Belgium and France to the end. We are the victims of a rotten political system.

But I had promised to give more of my European experiences leading up to the war.

A PLAUSIBLE PROPOSITION, BUT——

It was in 1909 or 1910, I think, B——, a Frenchman, called on us in Toronto. B—— is not his exact name, but it is near enough to be recognizable, by those who know him; and he and his brothers are particularly well known in Parisian social and financial life. He had a letter of introduction from a *Financial Post* subscriber, the head office of a Paris bank, of which he was a director. He had come out to look into what promised to be, a very profitable investment. Those he represented, Belgians as well as French, were, if my memory serves me correctly, prepared to buy $2,000,000 of securities; which they intended, eventually, as was their practice, to recommend and re-sell, to small investors. He desired to have my opinion. I told him I did not know anything about the merits of this proposition, though nearly all enterprises of this kind had been very profitable, but, that, while I knew well and liked the men he was negotiating with, I had no confidence in their financial capacity, and disliked the methods they employed in raising capital. They were young, inexperienced, promoters, but not business builders.

I pointed out that no one connected with the concern had a record of success; and much more of a similar nature. I recall that, indirectly associated with them was a financier who was using the late J. P. Morgan, as a reference, but whose methods were not according to best banking precedent, though some of his critics have since adopted some of them.

B—— returned in a few days and said that, though very extraordinary favors had been promised him, he had decided not to take advantage of them. In fact the offensive attitude of the promoters towards him, when he decided to withdraw, caused him to express very great gratitude to me for saving him. They raised a great deal of money quietly among the most cautious investors in Ontario, in sums of $5,000 up. One capitalist told me he put in $100,000, and another I heard of, $250,000. Every cent was lost, I believe. The property went into the hands of creditors, and soon after, one of the trustees told me, that some very interesting correspondence had been found, and safely deposited in Trust Company vaults. It referred to one of the promoters, a brilliant young man, who had proved so successful in manipulating men. It showed that he and his wife were to settle in Ottawa, and given a liberal supply of spending money, to entertain and manipu-

Continued on page 72.

Fed Up

A Story of a Farm Lad and a Skirt

By GEORGE B. HOOD

"HENRY'S up an' left me," growled old John Martin, leaning over the top rail of the line fence.

His hard, shaggy-bearded face glowered fiercer than ever as he spat out his tale of woe.

"Is that so? When did he go?"

"Day afore yesterday."

"Well, well."

"Hayin' two weeks off, and the scoundrel leaves me in the lurch. Thankless way to treat an old man, ain't it?"

Sam Jackson, on the seat of his spring-tooth cultivator, smothered a cynical smile and thought hard.

After a short, speculative period of intensified church-silence, he picked his course.

"Well, John, I've never said nothin', heretofore, because I don't believe in meddlin'—but—I don't blame Henry."

"Don't blame Henry!" snorted old John, jerking out his cold, black, chawed-off pipe and gaping hard.

"Why, what in all 'Hail Columbia' do you mean?"

"I know I'm an ol' fool for tenderin' advice, but, Great Scott, John, I think it's time you was gettin' out o' the old rut a bit."

"What do you mean?"

"Simply, that you've been tryin' to bring Henry up as you, yourself, were. It won't go; the world's movin' too fast. Farmin' has come to such a pass that you've gotta court a boy to hold him. It's fierce, I admit, an' yet it ain't. Why shouldn't any boy go where he kin do best? Now-a-days, a man's gotta hang out some real prospects before his son. Did you do that? No, you've made the boy hate farmin'.

"Ever since he was yanked out o' public school, he's heard, seen, an' done nothin' but work—work, work, all hours, week-days, Sundays, and holidays; and that's all he had to look for'ard to, if he hadn't suddenly grabbed the notion of corralling a chunk of them gushin' war wages."

He paused.

John only pulled at his unpruned whiskers in itching silence so he re-opened fire. "Mind, John, times has changed since you'n I was little gaffers. Tog us up in home-spuns, put a shin-plaster in our jeans an' we was millionaires; but now it's different.

"What does Henry get?

"A cheap suit every three years; a general purpose horse hooked up to a rickety old buggy; and a few dollars he mostly picks up workin' out odd days.

"Now, take my brother Ben's boy in the city there. Ben's only an ordinary workman, yet Jim—that's his son—got two years at High School. Now he's earnin' good pay, and, moreover, keeps it all except a couple of dollars for board, and he's only eighteen—a year younger than Henry. Out of this, he dresses swell, has a dickens of time seven nights a week, and, in general, realizes he's livin'. Colts and calves is skittish, and why shouldn't boys be too?"

"Nothin' but danged foolishness," barked John, riled to his heels.

"Well, you got my opinion. I ain't forcin' it on you; but I'm afraid Henry won't come back to the old way o' doin' business, now that he's got a smack of the city. Giddap, Nell! Come along, Prince!"

John didn't digest the erratic reasoning of that daft, interferin' Sam Jackson just then; too much hot, seething lava pitched inside his sweaty skin.

However, by the time he had done the chores and kept the team going for seven days, he began to chew away at the cud smoldering in his crop.

He couldn't, or he wouldn't see that Henry was right; but he either had to lure him back or hire a man. He would much sooner have Henry, because he had a well-trained hang of doing things—and then, men were so expensive.

So he wrote him a nice, enticing letter, offering him an uncertain lump sum at Christmas, a can of varnish for the buggy, and some bright prospects in the dim future.

Meanwhile, Henry—as Darwin would say—had evoluted. He was no longer the rustic, heckled son of an antiquated farmer. He looked as smooth as a fair potato in his pinch-back, thirty-five dollar, blue serge, with accessories to match. Oh, no, he hadn't earned all that in a week, even though one hears mighty tales of immense war profiteering, but had collected most of the necessary teaming in the winter.

And, of course he was finding favor and getting in wrong with numerous girls. Two especially concerned him. With stubborn, rural tenacity and acquired, city cunning, he was assiduously stepping in the way of the very attractive little Helen Bourland and hopping out of the road of that much less desirable, freckled Bessie Boles.

"Invite Henry up for a week-end and he might take a sorta hankerin' for the old place."

In the pursuit of both, he was most ardent, and, worse luck, equally unsuccessful.

You see, it was this way. Helen, somewhat of an economist, thought he, a farmer, should be out raising padding for the stomach. Firm in her convictions, she was most mulish, and he was forced to enjoy a most harrowing time. On the other hand, Bessie's people lived next door to where he boarded, and with such an opportune wedge, she concocted every stratagem a girl's fertile brain can to waylay him.

A few days after he had highhandedly refused his father's generous terms and informed him that he did not desire to give up his very much more lucrative and exhilarating sojourn in the city for the humdrum, drony life of the farm, his feminine troubles ceased.

Helen, without a single, feeling pause, notified him that she was no longer desirous of his company and advised him to skoot back to the yearning bossies.

His nerves were so on edge and his heart so raw that, at the end of the week, he tossed his belongings into a suitcase and lugged them to new quarters, far from Bessie's maddening face.

His tender romance frozen, he abjectly drifted into the omnivorous—octupus diversions. The dry, fascinating clink of a poker chip, the whirling maze of a dance hall, and all their various blood relations grabbed him with strangling recklessness.

Three weeks after their first discording pow-wow, John and Sam happened to meet one Sunday evening by the roadside.

John's pro tem antipathy had touchingly turned to woe-begone humility. A growing pressure gnawed constantly at the pit of his stomach. The uncut, ripe hay, yellowing grain, and dirty hoe crops stared at him from sunrise till the dark hid them. Even then they continued to mock him, moping on his door-step and tossing in his feather bed.

True he had a man, but only in make-up did that trailing individual merit the cognomen.

"Sam," he whined, "I guess you was right. Henry won't come back for all I can offer 'im."

He puffed away at his pipe a few seconds.

"I never realized he was such a darned good lad till I got a taste of one of these hired men. Anything that sling-a-tools I got does is only half done, and that's mighty little. I ain't got the push I used to have either, and there you are."

"Yes, I know what it means."

"Sam, I know how you feel: as though I thought you was buttin' in. I did. Moreover, I thought you didn't know what you were talkin' about. I don't now. It was me. I was such a ding-busted ol' fool, I couldn't see nothin'."

He resumed his pipe.

"That's all right John. The thing now's to git Henry back."

"Yes, but how? I've written him, and

his mother's written him, but it don't do no good."

For the next five minutes Sam rapped two stones together while John belched out burnt tobacco.

Little did flushed, guileless Henry, watching his chips disappear beneath the clutches of stoic sharks, guess that these two impromptu strategists were attempting to dig a pitfall, a thousand feet deep, for a certain golden-haired, square-jawed son.

Suddenly Sam pulled himself up, raised his mud-brown hat, and scratched his badly-killed-out scalp.

"Say, John, I got it."

"Well—"

"You know this year they're sendin' school girls and, in fact, all girls that has become infected with war production fever, out to flirt with us farmers."

"Yes; but what of it?"

"Why, just this: you git one of these here girls—a nice, pretty one, invite Henry up for a week-end, and who knows but he might take a sorta hankerin' for the old place."

John didn't whoop with delight over the plan, but finally agreed it was worth an experiment anyway.

"But how'm I goin' to go about gettin' one of them?"

"I'm goin' down to the city Friday an' I'll try to hunt you up one. In fact," he added after a moment, "I don't know but what I might git one myself. It ud liven the house up a bit even though she didn't take a likin' to hoein' tatties."

He chuckled at the prospect.

To cut all the preliminaries short, the immodest, young hussie, with the bloomers arrived, and Henry was prevailed upon to come up over Sunday.

His father brought him from the station with tingling anticipation. The first supper was over, and the girl, unaware of Henry's coming, was outside somewhere. They never said boo, but asked questions and piled fried eggs and cherry pie on his plate till he had a slightly pained distension under his table napkin.

After tea, John had to go out and supervise the chores. Henry continued to answer unlimited questions about his clothes, board and rooms while his mother washed the dishes.

Then they went out to look at the garden and chickens. They were ambling along admiring the variegated, sickly flowers that had survived the grubbing hens, zealous weeds and adverse location, when Henry suddenly pulled up short and stared—like one's great-grandfather lamps him from a dusty gilt frame—at a girl, seated complacently in his mother's best rocking chair.

"Why, mother," he gasped in an undertone, "who's the skirt?"

"Oh, I forgot,—your father, through Sam Jackson, got her two days ago to help with the hoeing."

She said it matter-of-fact-like, though it all seemed, as yet, ridiculously strange.

"She's nice enough." Then scurrying back to her multi-rehearsed part, added with colored emphasis: "A very nice girl —." But she was a poor actor and could not resist tacking on: "But, Henry, I hate to see her trotting around in the shameless clothes she wears. Why, Henry, she actually wears bloomers and right out in front of everybody as though she was a man with pants on."

He smiled appreciatively, and a very pleasant curiosity surged between his stomach and his hat.

It was growing dusk, and the girl had to attend very closely to a book she was gorging. Not until they were within a few feet of her, did she become aware of their presence.

"Henry," she sopranoed delightedly, forgetting her book and three cents' worth of spearmint, and all bubbling over with smiles.

A thunder cloud of disgust puckered up his mouth and ploughed deep furrows between and above his eyes.

"What!—You!"

"Yes, this is me all right; lonely already and mighty glad to see you. You don't seem terrible pleased though."

"I am," he gurgled, heroically trampling under good Christian teaching to the tune of unvoiced, prohibitive words.

He staunched his ire long enough to speak half-decently to her for two minutes, then, to the chagrin of the ladies, broke away at the nearest approach to a run.

He met his father part-way to the house and turned back with him.

"Well, Henry, did you meet our new hired man?" he grinned.

"Yes."

"How do you like her?"

"Like a dusty threshing."

"You do," he groaned, setting down the pig-pails and looking sourly at him.

"Yes, you see I used to board near her"—"So she said"—"And she tagged after me like a mosquito. No, sir, none of that for this boy."

Henry's further chatter dwindled among the quivering leaves.

"I'm going up the road," he announced when they reached the garden gate, "and see if any of the fellows are around, and give her a chance to hike to bed."

Poor old man, John, entered the house with a much inflated heaviness between his ribs. His petted bubble of hope was punctured. Nothing but an eternal, desolate grind with mercenary hired help and a deteriorating farm loomed before his much crow-footed, now wistful eyes.

"Mother," he said, after Bessie had hunted out a lamp and climbed the stairs, "it's not a go. Henry dislikes her so much, he's gone up the road to keep out of her way. I was an old fool; yes, an old fool."

Henry struck up the road in hopes of meeting some of the neighbor lads. A broad, unconscious smile decorated his freckled face, for he was bloated with the desire to pour out his multifarious exploits to his late, unsophisticated pals, to put huge saucer eyes and gaping mouths in their honest faces; in short, to be an honored prophet among his own people.

He hadn't quite reached Sam Jackson's gate when he perceived a huddled form perched on a solitary stone in the shadow of a choke-cherry clump. As he neared the individual, he made out the form of a girl.

Who on earth was it? No girl he knew took to sitting alone like that.

When opposite to her, he stopped, peered and pierced, but to no avail.

"Is that you, Maggie?" he ventured. He knew it wasn't her, but some opening was demanded.

"No," quavered through his hearing membranes.

Gosh! a familiar tinkle.

He waded the cropped grass and majestic thistles.

"Who are you?" she gasped, cowering back.

"Gollies! It ain't you Helen?"

"Why Henry," she gulped with a smile of pleasurable relief; "I'm awfully glad. When did you get home?"

"To-night."

"To stay?"

"I should say not. What are you doing here?"

"I'm helping on food production, of course," drawing herself up.

"What do you do? Play with the calves and pussy cats?"

"Certainly not; I—but what's the use of talking? You know well enough. Don't you think it about time you were imitating me?"

"Oh, I don't know."

"I've only been here two days, but, in that time, I've heard how much your father needs you. I admit you had cause to leave, but now when he offers to adjust conditions, you ought to stay. Anyway, what will you do when the demand for munitions ceases?"

"Seems to me someone might have been minding their own business," he mumbled.

"Is that so? Don't you ever discuss the affairs of others? But, anyway, Henry, I wish you'd stay. It's awfully lonely out here."

"No," he wavered; "I'm going back on Monday."

"Well then, go."

But loneliness claws big holes in independence and aversions, and, in the flitting silence, her defiant spirit began to crumble.

"I—was nasty to you," she said plaintively, "but I'm sorry."

Did you ever pile a dozen blocks up, one upon another and blow, oh so gently, but keep it up, until, at last, they fell with a smash that made father growl from behind his paper? Yes? Well Helen kept talking, soothing, and expostulating till—

Henry's father was still toying with his abandoned specs and his mother was gathering up an assortment of socks in various stages of repair when Henry entered.

The old mulatto-faced clock crooned off eight ticks and seven ticks while he sidled to the table, his eyes fixed intently on the two brooding faces.

"Say, father,—I guess I'll stay."

"What?" they gasped in unison.

"I mean it. But stick to your terms."

The Fall Hotbed

Only those who have tried one know the advantages of the fall hotbed. Spinach, lettuce, beets and baby carrots may be produced in this way, much to the advantage of the farmer's table and pocket book. Besides, if a little care is taken to plant some seeds in pots, these pots may be transferred to the kitchen window or to the furnace room in the days when the snow is flying.

The advantage of the fall hotbed is that it requires less watching in the fall than the spring hotbed. Further, the spinach and lettuce produced in the fall is possessed of a succulence and a delicacy of flavor that are most attractive. Not only does the lettuce serve well for garnishing dishes but it makes a salad that is first rate. This season when the apple crop is practically a failure the farmer will find the time and energy devoted to the hotbed most remunerative. When he makes up his load of garden truck he will find that his lettuce will sell as readily as anything he has to offer. Further, he will find to his own comfort that the lettuce is a fine combination of food, medicine and tonic, difficult to find in any other of his products.

Making 90 Acres Return $10,000

G. A. Brethen, of Ontario, is Applying Best Principles of Business Management to His Farm. Once a School Teacher

By F. E. ELLIS

MY idea of a real good time is a visit with an up-to-date and enthusiastic dairy farmer in love with his occupation and eager to converse on all subjects agricultural. I have visited many such men this spring, but none of my visits are remembered with such pleasure as a week-end spent with Mr. G. A. Brethen early in the season. Even nature conspired to render my visit to Hillcrest Farm a pleasant one. It was one of those rare warm days of May when I swung off the train at the little town of Norwood and started off down the road toward the farm. Everywhere the fresh new life of spring was in evidence; trees were just springing into life; the grass was tender and green; the birds were caroling joyfully, glad, apparently, to be back to their summer homes. What a contrast to the dirty city streets that I had just left behind. With the glamor of spring around me, the walk out to the farm of just a mile and a half was enjoyed hugely. The hospitality of Hillcrest during my stay of a day and a half proved equally agreeable and then I had the added pleasure of examining the workings of a farm that is a model of efficiency and a splendid exposition of the possibilities of a farm of moderate size when under real business management.

I had never taken kindly to the idea that real scientific farm management is possible only on a farm of large acreage. To accept that principle would be to admit that in the future the country as well as the city will have its permanent working class serving a small number of land owning employees. Our farm management experts, if their conclusions are correct, have shut the door to land ownership for the many who might hope through years of patient effort to buy a farm of moderate size, but who could not expect in one lifetime to accumulate the capital necessary to make a start on such large farms as are now spoken of as the correct economic unit. In Mr. Brethen I found a farmer who does not believe that our farm management experts are a hundred per cent. correct and in his own farming operations he is applying the best principles of business management on a much smaller farm than is usually advocated. There are just 96 acres in his farm of which 66 are in a rotation and the remainder in pasture. The farm carries 50 head of pure bred Holsteins, a large percentage of them mature, four work horses and so productive is the farm that only the concentrates are purchased. Labor is used efficiently and last year receipts from cream and live stock brought the income from this 90 acres very close to the $10,000 mark. Surely this indicates the possibilities of a small farm well tilled.

FOLLOWS A 3-YEAR ROTATION

To produce the large amount of rough feed necessary for so large a herd, a three-year rotation is followed on the arable land. The corn crop is the standby and in an average year about 14 acres are grown for the silo and this is supplemented by about five or six acres of roots. One year from 12 acres Mr. Brethen filled and re-filled his two silos, 11 x 33 and 12 x 41 feet, and had 27 loads of corn left over in the stock. The variety was the improved Leaming. That same year he had 5,000 bushels of roots, principally turnips, for, like all other dairy breeders who test extensively, great value is placed on the root crop by the proprietor of Hillcrest. Housing such a root crop would be an expensive proposition under any other system than the one followed by Mr. Brethen; about 1,000 bushels are stored in the cellar of the barn and the rest are pitted in the field, the root house being refilled on mild winter days as necessity dictates. For test work the Giant White Sugar Mangel is highly valued as it is a good yielder, easily harvested and tests six per cent. of sugar.

RAISES LITTLE GRAIN

Grain is not an important crop, only enough being sown to keep the farm seeded down. Even last year, however, with short crops everywhere, 1,000 bushels of mixed grain was threshed, the threshing lasting all day and until eight o'clock at night. This crop was taken from 16 acres of mixed oats and barley, the seed mixed in the proportion of one bushel of each by weight and seeded at the rate of one bushel and three pecks to the acre. The seed is treated with formalin to prevent smut and harvested a little on the green side, so that the straw will be of maximum feeding value. The hay crop is a mixture of clover and alfalfa and the sod remains down just one year. Mr. Brethen's idea in mixing a little alfalfa seed with his clover is to get the land accustomed to the crop as in the past he has had but poor success with alfalfa alone.

A corner of lawn of Cedar Crescent farm, Orono. Hydro-electric power lights, pumps water, and runs small dynamo here at a low cost per year.

The fertility of the soil and therefore the productivity of the farm is increasing every year. It is now seven years since I made my first visit to Hillcrest and in each succeeding year I have been able to note the results of the short rotation and a heavy live stock population in the growing productivity of the farm. Many tons of concentrates are purchased each season and this too is aiding the proprietor of Hillcrest to grow more feed to feed more Holsteins to make more manure to grow more feed to feed more Holsteins, etc., etc. On this farm it is recognized that soil fertility is the farmer's working capital, or rather an important part of it, and Mr. Brethen recognizes it as good business to increase rather than decrease his capital.

HOW EFFICIENCY IS SECURED

The layout of the work at Hillcrest is almost ideal. So far as possible all field work is done with a four-horse team. One of the first things that attracted my attention when I arrived on the farm this spring, was a big cutaway disc harrow churning up the soil in great shape with four good sized horses ahead of it and one man doing the driving. A 12-acre field was worked up ready for seed that day. Because of the large implements used the one man employed is able to do almost all of the field work, the proprietor holding himself free to give his live stock his almost undivided attention while they are stabled. The man, on the other hand, is not worried with chores and once his horses are stabled and attended to for the night, his day's work is done. The herd does not suffer from ill attention as would be the case were the proprietor to attempt to do a large share of the field work. Later in the season, when more of the work must be done by hand, the cattle are out on pasture and the proprietor can lend a hand in hoeing and in harvesting the crops. Could labor be more efficiently distributed on a farm of larger area? I fail to see how.

MACHINERY IN THE BARN

In the barns at Hillcrest the same attention has been given to simplifying the labor problem with machinery as in the fields. The milking machine, installed a year ago last spring, is giving excellent satisfaction and is used on the most valuable cows in the herd. The small gasoline engine, which supplies the power for the milking machine, also runs the cream separator and pulps the roots. The fact that Mr. Brethen is the largest patron of

the Toronto creamery company and at some seasons of the year ships over a can a day of 35 per cent. cream, testifies to the need of this equipment.

QUALITY HOLSTEINS

Hillcrest Holsteins, however, are what most of us go to Norwood to see and it is as the dairy cattle breeder that Mr. Brethen has become known from one end of Canada to the other. When we think of Hillcrest it is in connection with such great cows as DeKol Mutual Countess that held no less than four world's records for milk and fat production, her mother Rauwerd Count DeKol Lady Pauline, the only Canadian cow to produce 29,000 lbs. of milk in a year and the numerous descendants of these two cows, which now compose the major portion of the herd and which are continually piling up great records and adding to the fame of their owner. Mr. Brethen is a breeder, not a dealer. In his herd there are only three cows that are not of his own breeding, two of his foundation cows and one purchased since. When he spends money for stock at all, it is for new sires and they must be the best that money can buy. His idea is not a large herd but a small herd of great quality. Last year his surplus stock sold for an average of $500 each.

This high average is the result of careful selection, intelligent breeding and last but not least, good feeding. The herd is always well fed. Skimping feed is the poorest kind of economy with animals such as these. The roughage is home grown and ensilage is fed the great part of the year. The concentrates purchased are oil cake meal, cottonseed meal, distillers' grains, gluten meal and bran. "You must have a big feed bill," I commented.

"One calf pays for it all," was Mr. Brethen's rejoinder.

Then I came back to the question of the small versus the large farm. "You are satisfied with this area?" I asked.

"If anything I have too much land," replied Mr. Brethen. "My ideal farm has 50 acres of good soil, all workable. On such a farm I could keep three horses with the machinery necessary to work a three-horse team. Then I would plan for quality in everything. There is my neighbor across the road with just 30 acres. He is making a splendid living and he has a good time. What more could a man have on 200 acres?"

LEFT SCHOOL TEACHING TO FARM

Mr. Brethen, while a farmer bred, started in life as a school teacher. The farm, however, had an insistent call for him and he first went half way by getting into the retail milk business. Finally he purchased the farm on which he now lives and for 10 years has been breeding Holsteins. The farm has been steadily improved. The barns are not elaborate, but the stables are fitted with all modern conveniences and comforts and the calf barn, one of the few new buildings that have been added, is a model of its kind. A lean-to roof on the north side of the calf barn furnishes a commodious and cheap implement shed. Mr. Brethen has gone on the principle that expensive, showy buildings are not profitable, but that comfort and convenience are necessary to success. The fine brick dwelling house is fitted with all modern improve-

(Continued on page 75)

VIEWPOINTS

Looking at it that Way—[illegible]—well, maybe there's something in it.

A Food Supply and Win the War

I was pleased to note, in last issue of the FARMER'S MAGAZINE, a timely warning given about Canada's criminal neglect in food production. Certainly the production of foodstuffs has fallen off rapidly, and is likely to continue to do so, unless some radical policy is quickly made. Under the feverish anxiety of raising or procuring large numbers of young men to fight, and the excitement of the conscription and win the war cry, apparently the approaching world's famine has not been taken very seriously and Canada's duty in reference to food production not fully appreciated. No country under the sun is in a better position, both physically and geographically, to furnish a large share of foodstuffs to Great Britain, than Canada. What we lack is *men*. But where is the help to come from? Much amusing but well meant advice has been given greatly by our city cousins, and the food controller is taking steps to look into the question of the killing of lambs, youthful pigs, and calves of dairy breeds, which may result in tougher but not cheaper meat. But the past experience has proven that taking the able young men from agricultural pursuits has caused a reduction in farm products and at a time when there should have been an increase. There can be no hope of relief, and increased production, without men. Sufficient inducement must be held out to cause those skilled in agriculture to return to the land.

Men without some practical knowledge will not relieve the situation very much.

The facts of the case are clear, less farmers less production. If greater production is required then more men are required in the business. Who would think of taking the men out of the machine shops and expect the manufacturer with the aid of his wife and daughters to turn out as much as he did with his skilled help?

Exemption from conscription of farmers' sons, also those who have a practical knowledge of conditions on the land, would help some to cause an increase in production of foodstuffs.

With the belligerent nations endeavoring to starve each other into submission and a possibility that Great Britain may be forced to accept unfavorable peace terms on account of a short food supply, Canada should husband her energies in the safer direction by not neglecting to do that which is the most vital to humanity.—Wm. Pierce, Ont.

Advantage of Fall Plowing

By plowing in the fall, the farmer not only advances his work preparatory to the next season's crop, but he does what is perhaps of greater importance—he exposes the plowed land to the disintegrating, mellowing action of the winter's frost. He thus enlists in his service one of the most powerful natural agencies. The upturned soil becomes permeated and saturated by the rains of autumn, and as water expands one-tenth of its volume in freezing—ten cubic inches of water becoming eleven cubic inches of ice—this law of expansive force is working silently but energetically and effectively during the months of winter, breaking up and pulverizing the hard masses of earthy and rocky matter of the soil. Thus the work of preparing the land for the reception of seed is done more thoroughly and completely than can be done by mere artificial means with a large expenditure of labor and mechanical force.

In clay soil the advantages of fall plowing are, no doubt, greater than in soils of another character, it being an extremely difficult task to make a perfect seedbed by working it in some of its conditions. But nature is kind to the farmer if he will work in accordance with her methods, study her laws and invoke her aid.

Other advantages of fall plowing are: the greater soil-area or exposed surface of plowed than of unplowed land, affording more complete aeration, as well as increased water-holding capacity in the soil. The air—an important factor in soil-preparation—is excluded from hard and compact or water-logged land. Aerated, loose, mellow, well-drained soil presents a larger area of soil-particles and therefore better moisture-containing property, a very important condition in crop production. Fall plowing is of special utility in securing and promoting this condition. It also tends to destroy injurious insects by dislodging them from their winter habitat in the soil.—W. J. Way.

An Agricultural Crime

I can say amen to every word of the article. As it appears to me the situation on the farms at present as to preparations for 1918 is almost desperate, but no one in officialdom appears to be caring in the slightest.—A. D. B., Ontario.

Timely Article

The FARMER'S MAGAZINE puts up a timely and powerful article urging the importance of concerted government action to secure increased acreage for cultivation next year. As the magazine says, now is the time to get the plowing done, and to this end it urges that increased use be made of tractors and munition workers be employed at a good wage to help put in additional millions of acres of fall wheat. Much could no doubt be done in this direction if there was concerted effort along these lines.—Guelph *Herald*.

Call for Agricultural Leadership

F. M. Chapman, editor of the FARMER'S MAGAZINE, whose letter in *The Globe* several weeks ago gave the first real start to the tractor movement that is now sweeping rural Ontario, has an article in the magazine of which he is editor urging further advance along the same line. He offers these practical suggestions as to what might be done by the Department of Agriculture:

Use the discharged munition workers in operating the tractors already in the country, many standing idle.

Make every available engine draw a gang of ploughs, preparing for fall and spring crops.

Pay the wages to the men that will induce hundreds to apply at once. Run the tractors in double shifts, night and day, with acetylene headlights.

Speed up the manufacture of tractors and get deliveries faster.

Establish short-course tractioneering schools at every experiment station, college and county town.—Toronto *Globe*.

Pettypiece Adds to Suggestions

Quoting the suggestions made in the FARMER'S MAGAZINE by the editor under the head of an agricultural crime Mr. Pettypiece of the Forest *Free Press*, adds the following:

These suggestions made by the FARMER'S MAGAZINE are good, but the great vital hindrance to an increase in production is not mentioned. The *Free Press* has been asked to take a hand in the campaign, and we take the op-

portunity of adding a few other suggestions, which, if carried out, will place our agricultural industry in a position where it will not need suggestions nor leaders from neither the big interests nor the government.

Place all farm machinery, all building, draining and fencing materials, etc., on the free list.

Revise our taxation laws so that the manufacturing, transportation and publishing industries will have to pay their own taxes for awhile.

Compel the railways, which the people have built, to discontinue giving lower rates to U. S. producers than they do to our own.

Take advantage of every opportunity to give our farmers freer access to the world's

Release four-fifths of the hundreds of armmarkets.

chair agricultural "experts" who are wasting the country's money in "educating" the farmer, and let them give practical demonstrations at farming.

In a word, give farming a square deal, and it will not have to be molly-coddled by all kinds of people who are living off the farm, in more ways than one. No single industry can carry the nation's whole load of taxation and live.

Alfalfa or Not

I was much interested in the article on alfalfa in your last issue by F. E. E. and can substantiate all he says regarding the value of alfalfa as I grow from twenty-five to fifty acres every year. Much of it on soil that is not at all ideal for the crop.

From my experience which extends over eastern Canada and a large part of eastern United States I agree with the farmer quoted that it is a mistake to advocate alfalfa alone as a general farm crop for the following reasons:

I doubt that this is the proper way to sow it. Though I have fields that have been down twenty years. As a rule in this climate alfalfa is a short lived plant, and under best conditions and with all instructions followed there will be more or less bare spots. In addition on the average farm I consider alfalfa is more valuable as a rotation crop leaving it down from three to five years.

The average farmer will not go to all the trouble and expense which he is told is necessary to grow the crop and I do not know but what he is wise in not doing it as hundreds have had the same experience as the farmer mentioned and lost heavily. I doubt whether, if natural conditions are not favorable, it will pay to grow alfalfa, though I must say that I have never found land that will grow good red clover that will not grow alfalfa. In fact I consider alfalfa the hardier of the two. If a farmer does put a large amount of expense on alfalfa he is likely to have a failure and becomes discouraged and gives up in disgust.

One reason for these failures I think is the impossibility of thoroughly inoculating the soil with the necessary bacteria in one season. I can name a number of districts where those who grew alfalfa first though all care was taken, had more failures than successes but they persevered and now alfalfa has become a general crop. And no inoculation is needed in the district. My only explanation is the general spread of the bacteria by wind blowing dust live stock and birds carrying it on their feet, etc.

I have often told farmers at institute meetings, that if you cannot grow alfalfa without taking risks of losing money, time and use of land, let someone else grow it.

My method is very simple and easy. So easy that very few farmers will try it.

Mix from 5 to 8 lbs. of alfalfa seed, either inoculated with bacteria from the college at Guelph or moistened and a little fine dust from an alfalfa field mixed with it, per acre with the regular seeding down mixture. Sow whatever way your experience has shown to be the most successful in growing red clover either with grain or on well prepared soil in July or early August.

In this way you are sure of a crop. There is no danger of losing the use of your land and in nine times out of ten you will get a fair mixture of alfalfa in your hay.

Go over your whole farm in regular rotation in this way and if by that time you are not satisfied that alfalfa is the most profitable crop for you to grow I repeat "let someone else grow it."—Geo. F. Marsh, Simcoe Co., Ont.

How to Reduce the High Cost of Living

The first step to be taken for reducing the high cost of living is to lessen the cost of high living. Reading "classy" stuff in magazines and aping the upper crust of society causes more distress and want among the working class than anything else.

If I am a working man making from $12.00 to $15.00 per week, my daughter is on an equality with Rockefeller or Rothschild. She doesn't understand you if you say, "working shoes" because there is no such thing in her mind. If a shoemaker showed her a plain decent boot and asked her $2.00 for a pair, she would feel insulted, for there's not a pair of lady's boots in Canada any good under $5.00. And who would be seen on the street with a plain cheap pair of shoes?

The same idea permeates the whole family even to the "old man." He wouldn't think of eating a breakfast of rolled oats with milk and bread and butter and tea. He must have something like expensive breakfast food with cream and sugar; ham and eggs, raspberry jam and mock turtle or something to that effect. Then, again, he has got out of the habit of thinking $10.00 should purchase a suit of clothes in these days of automobiles and fast life. He must think in the twenties or thirties or be dubbed a "back number." "As a man thinketh in his heart so is he," and as a man thinks of high prices and is willing to pay, prices will continue to soar.

Most working men think it absolutely necessary to have meat three times daily regardless of price, which is a mistaken idea. Meat once a day is plenty for any man. It not only means a reduction in the cost of living but an improvement in the state of health. Fruit and vegetables are more conducive to health than juicy beef or greasy pork.

Paul advised Timothy to take a little wine for his stomach's sake, but he didn't expect him to drink enough of it to become a drunkard. Like Timothy we should take a little meat for our stomach's sake but not eat enough of it to become gluttons which ultimately destroys health and leads to poverty.

A glimpse at the corn field in early September, that won first in the Standing Field Crop competition in Durham Co., owned by W. L. Smith, a well known farm editor. The work was done by Geo. Pollard, of Orono, who is seen in the photo.

The second step to be taken in fighting high prices, is co-operation. Competition has had its day and should have a decent burial. Let the farmers co-operate instead of trying to cut each other's throats; and let the merchants co-operate and buy collectively instead of individually, thus benefiting the consumer besides helping themselves. Let the common people co-operate, refusing to pay fancy prices for anything that can be possibly avoided. For instance, if potatoes are $1.00 per peck refuse to buy and live without them until they are reduced at least one half. If eggs are 60c per dozen do without them, collectively, until they are reduced considerably, and they'll soon come down in price or bust a monopoly.

The third step to be taken for this praiseworthy undertaking is to think right, for if we think right we will do right and if we do right there'll be no such thing as profiteering, skinning, fleecing or shirking.—John A. Rowland, Perth Co., Ont.

An Agricultural Crime

The FARMER'S MAGAZINE, published at Toronto, is not a political organ nor in any sense a party journal. It is exactly what its name implies. Yet in the carrying out of its functions as a farmer's journal it has felt impelled, over the signature of its editor, to publish one of the most scathing criticisms of the present government at Ottawa that has appeared in print for some time. It is not printed to serve any partizan end, but to present to the people of Canada an existing situation, and one for which the Ottawa Government is responsible.

This article, entitled "An Agricultural Crime," is reprinted in this issue of *The Leader*. Its strength is to be found, first, in that it deals solely with facts, and facts which are well known to the people of Canada, and secondly, to the moderation of the language employed. On the face of it, it discloses the fact that it was written without political bias and solely with the object of presenting facts with a view to stirring the government to action.

It is a fact recognized by all authorities throughout the world, that the food supplies of the world have decreased enormously and that to-day the reserves of food are smaller than for hundreds of years past. United States Food Controller Hoover has emphasized this fact over and over again to the people of his country, and Food Controller Hanna has repeated the warning to Canadians. The Borden Government is fully aware of the situation, yet it has done nothing practical to meet the crisis.

That the world to-day is not in a far worse state from the standpoint of food is due, as the article in the FARMER'S MAGAZINE points out, to the fact that two years ago the North American continent produced one of the greatest crops in recent times. The United States crop of wheat far surpassed anything hitherto known in that country, and reached a total production which no authority in that country ever expects to see duplicated. The great 1915 surplus is what has saved the world from facing actual starvation this year. But what of succeeding years if the most practical, systematic efforts are not put forth to cope with the problem? Yet what is being done to bring the great vacant areas of agricultural lands in Canada under cultivation? Practically nothing.

Yet it is to Canada and the United States that the Allies must chiefly look for wheat, oats, barley, rye, etc., next year and until the end of the war. North America must supply these cereals if they are to be supplied, because this continent is nearer to Europe than the other grain-producing countries, and the shortage in ocean shipping renders it practically, if not quite, prohibitive to ship grain to Europe from Australia and to a lesser extent from Argentina.—Regina *Leader*.

Manitoba Apples

Sam Scott, well known on the Grain Exchange, showed a nice sample of apples on the exchange, Sept. 14, which were grown at Morden by John Borthwick, says the *Grain Trade News*. The apples were of good size and sound, and prove of exceptionally good cooking quality.

Doin' Yer Bit

How a City Man With Rural Inclinations and a Lively Sense of Humor Saw Things in the Country This Summer

By BILL POWELL

PITCHING hay is some job. It's easier to write about it than manipulate a three-tined pitchfork and a hundred or so of hay on a windy day. I know; I've worked at both.

The easiest job I've ever worked at is farming in an arm chair. The real thing is a bit different.

Last spring before the frogs began croaking the War Service Committee of Ontario composed mainly of men who are farmers by profession, but never work at it, and some who have been real farmers at one time, long enough ago to forget about it, sent out a list of questions for us city fellows to answer. The first was would we "do our bit?" The harvest promised plentiful, but the laborers were few—or scarce—which ever way you like to put it. Many signed these documents—many reniged when it came to the show-down.

I wrote it down that I could hook up a team, milk cows, plough, drag, shock grain, hoe corn, weed turnips, or shoo hens. But I didn't see that one about pitching hay, or I would not be telling about it now. That's a cinch!

A long time ago, I did all these, including pitching hay. To be perfectly emphatic, I'm sorry I changed the plow for the city desk. The former is living, the latter is existing, a distinction with a difference.

But we must get back to the farm. I dropped off a train in an Oxford (Ontario) town one evening in the latter part of July. The weather was hot. It seemed to me that Old Sol was working the cook stove overtime. That July evening was as hot as anything I ever expect to meet in this world or the hereafter. And to think now, that I was to pitch hay the following day.

I beat Big Ben, the alarm clock, and the farmer to it next morning. I was up at 4.30. I wanted to stow away the white collar in my grip. I know what farmers say about the "white-collared brigade," and I wanted to "get in right." Really, I don't blame the farmer for being suspicious of white collars or politicians.

I squared myself with the collie dog. I wanted one reliable friend if I should fall down on the job. The Ayrshire bull looked like a picture I once saw of Tam O'Shanter. He might assist me over the fence. If he assumed belligerency, collie and I would be good for him. I'm half Highland, the collie is all Highland, and if a Highlander and-a-half was not as good as a lowlander from Ayrshire, then I was out in my calculations. The bull was afraid of one or the other of us. I'm sure it must have been collie. For collie made the Ayrshire hustle when I said, "Sic him, Collie."

My head was adorned with a California sunbonnet. They grow out in that country of earthquakes and fleas. The speckled hen took a slant at it and exclaimed rather loudly, "Cut-cut-get-your-hair-cut." The farmer's boy laughingly said, "The hens are onto you."

If there is one piece of animation that takes life easy it is an old brood mare. She can look as wise and as innocently at the same time as the ticket seller of a side show when he has put it over you for a dime. I kept away from her heels and the heels of her colt. I have been near colts before, and have had the old mare laugh at me after the colt forced me to pick myself up. Collie came in handy again. We were good friends—collie and I. And I kept him so. He got many an extra bone the two weeks I did my bit. No, he is not a grafter—collie is an honest dawg—he is a half countryman of mine. We're clannish—we're frae the highlands.

But this is not pitching hay. The farmer did not own a hay loader—"is going to get one next year." I cannot understand why he did not buy one for the hay crop of 1917. Hay in 1917 was some crop. The particular hay crop on that particular field must have been three tons to the acre—I'm sure of that. I counted every forkful, just to keep myself from forgetting the blisters and the loss of cuticle on the hand that writes this. It seemed to me that the hay loads were as near the clouds as the top of Toronto's city hall tower. But they weren't. Just felt that way. The first day that hay nearly got my goat. The farmer on top of the load, sputtered and spat when I filled his mouth, hair and whiskers with timothy, clover and dust. "Ye know how to pitch hay," he gasped. He didn't know everything. I was blowing like a porpoise and sweating like a Scotch mist. But we got in the hay without a drop of rain.

The heavy rains had beaten down the clay soil on the beautiful farm till it was as hard as bricks. The turnips knew it better than we did—the farmer and I. They were suffering from growing pains—and the weeds. Weeds are undesirable neighbors. Turnips and weeds won't thrive together. The weeds get the best of it. And because of this lack of harmony between close neighbors, cattle get the worst of it. That would never do. We need beef. In the trenches we need cheese. I was doing my bit.

I was blowing like a porpoise and sweating like a Scotch mist.

If there is one thing more than another I hate to see is weeds on the farm. We were old enemies. I asked for no quarters, and lamb's quarters, red root, wild mustard, Canada thistles and other things had to go. The hoe was as dull as a hoe. I cracked one handle. Got another hoe—and went to it. Four acres of turnips, four of mangels, hard clay—well, it was no job for kid gloves. Licked the weeds in the trenches to a finish. But it was a harder job than pitching hay. The pump was 80 rods away—and I was drier than a fish in a bone-dry town.

The guinea cock when he saw me that third evening going up the lane, yelled: "Go back; go back"; I called Collie. The guinea cock went somewhere else. I wouldn't stand for his impudence when I was doing my bit. I was a man of some importance in the farming community. So was Collie.

My hands were getting used to things. Milked—for this was a dairy farm. In case you do not know it, cows own Oxford county. The Dutch and Scotch battle for the honors of butter-fat and milk checks. Black and white Holstein cattle dot the fields of beautiful Oxford, whichever way you look. The invention of Mr. Babcock threatens to change this. The big companies are paying for milk on the butter-fat test. The Ayrshire men say it is all off with the Dutch. The Ayrshire is rich in butter-fat as a family. But there are families of Holsteins that are just as wealthy. I want to keep out of the scrap. I don't want to take sides. But there is one thing sure, and that is that milk at cheese factories—co-operative or otherwise—will be paid for on milk test. So the Ayrshire and the Holstein, the Durhams, the Jersey or Guernsey can make the most of it. One thing I do know is that the Carnation Milk Co. has set the standard at 3.5. The Borden people have done the same. If milk does not test that high, the price is reduced, and if it exceeds that figure the price increases. The Powder Milk Company at Brownsville, Oxford county, pays for milk that way, too. So Cheese factories must follow.

Of course, all my sympathy is with the men on the soil. I make no apology for saying that in cold type. They are the back-bone of this Canada. And this war has shown, if it has shown nothing else, that the man on the land is the backbone of the world, and the real protector of our freedom and democracy.

I'd rather mix-up with aristocratic earls, dukes, marquises, ladies, lords, countesses, and counts of the farm yard, than the no-accounts of a pink tea talk-fest. I'm not a farmer. Do not pretend to be. I've always held that the Almighty intended that man should know enough to build his own habitation and take his food from the soil. At any rate that's the way I read Holy Writ. But we find it otherwise. In the cities we find males of the human family who'd be as helpless as a

(Continued on page 71)

Conscription in Quebec

By JOHN BAYNE MACLEAN

The articles by Colonel Maclean have attracted a great deal of attention and have aroused variously warm commendation, bitter criticism, and intolerant skepticism. Some publications have brushed aside his statements as unbelievable and not worthy of serious consideration. Unpleasant truths are never popular and always hard to drive home. Colonel Maclean foretold in August, 1912, the money stringency and coming let up in trade. He started in October, 1914, through the columns of THE FINANCIAL POST, to give utterance to certain things that he knew to be true, but which ran contrary to public opinion at the time. His facts were brushed aside and his conclusions derided then by the same people and the same publications now expressing disapproval of his articles in MacLean's. Here are some of the things he put forward as early as October, 1914: (1) "That the War would last 5 or 6 years (at the time even British Cabinet Ministers said the Germans would be defeated in a few months); (2) That Canada must not be contented with the 25,000 men then authorized, but must get another 100,000 men under arms right away; and make plans for 250,000 more. (3) That our real danger was submarines; this was laughed at by many critics. (4) That the possible political developments out of this war are causing many Canadians to do some serious thinking, but this is no time to discuss them. The duty now is to support the British arms to the limit of our capacity." Within the last three weeks there has been an animated discussion on this subject. One of the biggest men in Canada said frankly that we would become independent, while another man, who occupies a very important position at Ottawa, thinks the outcome will be union with the U.S. With neither of these views do we agree. (5) That the British needed different leaders than Asquith, Grey, Balfour and Churchill. (6) That Lloyd George was the man to take the helm. (7) That National Governments must take the place of purely party administrations, and leading business men be given portfolios calling for executive ability; Borden and Laurier now agree to this. (8) That conscription should come in Canada. (9) That Russia might seek a separate peace. On all these points and many others he had the truth at least two years in advance of public opinion. This is not intended as a defence of what he has written in MacLean's, but as a guide to such as desire to judge between what he says now and what his critics say.—The Editors.

From MacLean's Magazine for October.

CONSCRIPTION is not a novelty in Quebec. French-Canadian conscripts helped in 1775 to save Canada for the British, and Quebec for the Roman Catholic Church and French language.

The occurrences then are being repeated, almost exactly, in these days; excepting that then they had real war-time conscription. Then men were enlisted at the point of the bayonet and not after elaborate court proceedings.

Brigadier-General Allan Maclean had been authorized to organize two battalions of Highlanders in the States, Quebec and Maritime Provinces — the Royal Highland Emigrants, they were called. He was given power "to get them by beat of drum, or otherwise." The settlements and the farmsteads on the St. Lawrence were visited and each able-bodied man was seen in turn. Many volunteered, but finally when conditions became desperate, as they are with us to-day; when only Quebec City remained British—Benjamin Franklin was on his way from Philadelphia to start his newspaper in Montreal — French-Canadians were forced to join; rounded up by detachments of the Emigrants with fixed bayonets.

> "With the whole united strength of our people, we will win, but we shall only just win. It will need all our strength, so don't let us throw it away. It is a mighty foe which has set itself to destroy this Empire, and it will take all of our strength to beat it."
>
> —*David Lloyd-George.*

They proved very good soldiers. They made their way to Quebec in canoes. It is recorded that they had to pass the American sentries below Three Rivers by paddling with their hands. They arrived just in time. There was disloyalty in the garrison. Quebec was on the point of surrender. Articles of capitulation were being arranged, it was said, at a meeting of leading citizens in the Bishop's Chapel. The Highlanders and French-Canadians at once took charge of this meeting. The Chairman, one Williams, was kicked out of the pulpit. Detachments from the regiment were placed at the gates of the city—to prevent surrender. Internal plotting was put down with a strong hand. When Arnold's emissaries came forward with a flag of truce, expecting the surrender, they were fired on. They protested, but the old Highlander, now in full command at Quebec, said he could not recognize a flag of truce in the hands of rebels. The final effort, under Montgomery, on that stormy New Year's eve, was met and repulsed mainly by these conscripts and their Highland compatriots. Two of the French-Canadians distinguished themselves in the good work they did. It was Washington Irving, was it not, who wrote, that but for Maclean and his "brigands" Canada would have been part of the States to-day, and Capt. Key, of the York and Lancaster Regiment in a paper read in 1912 before the Royal United Service Institution, said: "Had it not been for the Highland Emigrant Regt., Quebec would have fallen, and had Quebec fallen, the British prestige west of the Atlantic would have ceased to exist."

French-Canadians are misrepresented by the noisy agitators in the big centres of population. The real *habitants* are a good-living, industrious, loyal, contented, hard-working people. They are simple, honest, trusting, and, therefore, easily imposed upon. In those troublous times, 142 years ago, and constantly since, this honest simplicity of the *habitant* has been taken advantage of by political carpet-baggers.

In 1775 the *habitants* knew they were vastly better off under British than the former French rule, but it is recorded that:—

> "Agents and friends of the United States Congress were very busy all through the settled portions of Quebec. By word or letter the simple peasant minds were alienated from their English friends. Mysterious armed strangers appeared in some of the parishes, and disappeared as secretly as they had come. The rumor gained ground that the British Minister had formed plans to enslave the country folks; that fighting would be incessant; that their lives would be spent in foreign wars and bloodshed."

In consequence, writers of those days tell us, the people became dupes to these pretensions, just as they are to-day the victims of the oily-tongued orators—and oratory is one of the vanities sought by the ambitious young men of a certain type in lower Canada, just as tenor singing or bull fighting is to the same class in Spain.

The same condition has come down to our own time. In 1896 during the election campaign, thousands of pieces of campaign literature, supplemented by fiery speeches, conveyed the impression that, if the Conservatives were returned to power, they would "send our children to Africa or Asia whence they will never return." And this took so strong a grip on the electors that, even with the church against him, Laurier received their overwhelming support.

This was repeated on behalf of the Conservatives in the last election. Uniformed agents traversed the rural districts, taking the names of all the available men, explaining that Laurier intended to put them into the British navy. And they voted for Borden's friends.

IN all these generations since 1775, the terrors of conscription and foreign service, the dread of being wantonly and forcibly torn away from his little family, has been drilled into and is to-day haunting the French-Canadian. This condition is pathetic. The French-Canadians are sincere in their opposition to conscription to-day. They do not believe that their homes are in real danger.

On our part we have done nothing to counteract this unfortunate impression. This phase impressed another student of the situation, W. Sanford Evans. In his book, "The Canadian Contingents and Canadian Imperialism,," published in 1901, he comes to the same conclusion, when he refers to the opposition stirred up

against sending troops to South Africa. He says: "A campaign of education judiciously conducted might have removed all difficulties, but it was not systematically attempted."

IN the early months of the war, the masses in England were quite indifferent when urged to join the army. Young men constantly answered the recruiting officers: "Why should we fight? We will be just as well off under the Kaiser as under King George. Both are German."

Two of my American friends had spent a week end in the home of a Cabinet Minister in September, 1914. They came back to London very much distressed. They had seen something of the war on the Continent. They knew of Germany's heartless designs. They were depressed. Yet they found the Minister and his friends most optimistic—rather pleased with the war. In three months at the longest, they had been told, Russia would be in Berlin. In any event, so this member of the Cabinet had declared, Germany would be starving by Christmas. The official foodstuffs statistics proved this. The war was going to be a good thing for Britain. The British were in no danger with the navy to protect them. They had done their part in sending 120,000 to the continent. "Business as Usual" was their policy; and they expected to completely capture Germany's trade.

The leaders and the press—excepting Northcliffe and a few others—positively refused to take the war seriously. Considering the opportunities they had of knowing the actual situation, their optimistic utterances were criminal. Perhaps the kindest explanation is that men with giant intellects, like Asquith, Grey and Balfour usually fail to understand the ordinary every-day affairs of life.

When the truth was told the masses they would not believe. It needed the Zeppelin raid and the atrocity stories to arouse them from the state of apathy which had been encouraged by the Government.

This being the situation in Britain, for many months after the outbreak of the war, it is not difficult to understand why we are not yet aroused in Canada; why we have not yet made practical attempts to overcome the prejudice in Quebec.

ONE of the newest developments in business is "investigations." The word has a new specific meaning. A concern finds its goods are not selling in some fields. Perhaps there is a prejudice against them. Other makes may be preferred. Smith can't sell his products in Quebec. Jones has that market, but he can't sell a pound in Ontario. The Ontario consumers won't have any but Smith's. Or it may be a new market is to be tried, or a new article. They see the leading merchants and families in scores of business centres; and away out on the farms. When they get through they will have answers to or explanations on, every topic the manufacturer needs, to enable him to decide upon the best plan for creating a sentiment for, or overcoming the prejudice against, his goods or methods of business. Sometimes a manufacturer will find a prejudice has been created against him by unscrupulous competitors—agitators—blackmailers perhaps. The criminal courts and the jails are then the remedies.

This intensive, scientific method was developed more generally in Germany than anywhere else. It is steadily growing in the United States.

Germany, through a New York business house, asked a Toronto firm to make an investigation in Canada a few months before the war. They had not the men to do the work and a corps of investigators sent from New York covered the leading centres from the Atlantic to the Pacific.

We, of the British Empire, as a result of our long years of power and prosperity have been in a rut. We have been accustomed to fight first and investigate afterwards, as Lord Salisbury said.

The usual method of big business concerns for overcoming a prejudice or creating a favorable sentiment is by talks to the people they desire to influence. As it is impossible to secure orators or other good advocates and still more impossible to personally see more than a very small fraction of the people, the most successful concerns put their talks in writing and place them before every person interested in the literature they read. Even the most uninteresting matter eventually succeeds. It is often a hard, long campaign, for wrong information, prejudices and falsehoods travel fast and are magnified as they go. Corrections move with the tortoise.

In Canada we are too far from the war to be seriously influenced. And, besides, the competitor, the agitator, the pacifist, has been among our people, spreading false stories, playing upon their prejudices.

OUR Government, even in Parliament, has done nothing to counteract wrong impressions or to develop right sentiment. Yet they had a splendid series of talks to send out. Why were not the Belgium-Bryce report and the French atrocity report printed in full in every daily and weekly newspaper in Canada?

A perusal of "When the Prussians came to Poland," by the Countess Turczynowicz—the Canadian woman, who, with her children, went through it all—could not fail to impress the people who think the dangers magnified. Lloyd George's speeches and Northcliffe's important articles should be placed in every home in the Empire. Balfour should have sent out a straight business talk to the people of Canada—told us the actual conditions as he told them in Washington—that we were being defeated; and that final defeat would mean a German Quebec, that the rapings of Belgium and Poland might be repeated.

No foreigner ever created so profound an impression on a whole nation as did Balfour at Washington. His story was a revelation to the American leaders. He said the Allies could not hold out much longer. The enemy submarines were succeeding only too well. Unless the United States came in and assisted them in directions he named, they would assuredly be defeated. If they were defeated, Germany would make the Americans pay the cost of the war and Canada would become a German colony. The Americans knew he told the truth. The seriousness of the situation stunned them. It was what they needed to arouse them. Before Mr. Balfour left Washington the United States had agreed to the first effective steps to curb the submarines.

Canada got no such straight talk. Instead, Mr. Balfour sent us a message of beautifully expressed sentiments, and those of us who have tried to arouse the country to the dangers ahead, by telling the actual truth are, as Frederick Palmer, the leading Allied war correspondent, recently so well said,

> "Being subjected to an amused condescension which had formerly warned you of the folly of proven experience tilting at an adamant state of mind."

ALL Canada, and particularly Quebec, needs to be educated, to be told all the truth about this war, in order that there may be given the moral backing to the conscription which cannot be enforced too soon.

The real truth is never popular. Therefore, the men who know, and the papers which ought to know, keep quiet. The idle rich and professional politicians whom we elect to rule—particularly in London—the men whose duty it is to tell—suppress the facts, because they would expose their own great incapacity and failures. Lloyd George said recently: "The people of this country are all the better for being told even unpalatable truths. It is essential they should know the facts, whether they are cheering or whether they are discouraging. Unless they get both they cannot possibly exercise reasonable judgment and discretion, or come to any useful decision in regard to the facts of the case."

The public otherwise get an entirely erroneous impression, and when the real truth is told they do not want to hear it. They suspect the motives of the people who tell them; and they do not believe them. They demand action by the Censor, instead of the elimination of the incompetent politicians.

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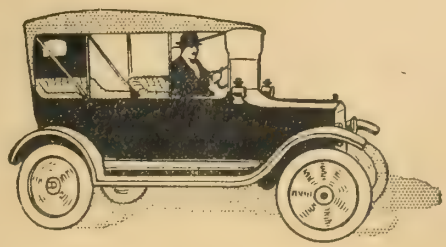

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In these days of stress the womanhood of the nation has risen nobly to its opportunities, amply demonstrating the fitness of the softer sex to engage successfully in practically every sphere of human activity. But, after all, woman is seen at her best in the management of her home.

The average woman, with a family of children to care for, is performing work of the most fundamental importance. Her responsibility is great, and it is continuous; and she does her duty with unflinching fidelity, never expecting praise or desiring prominence.

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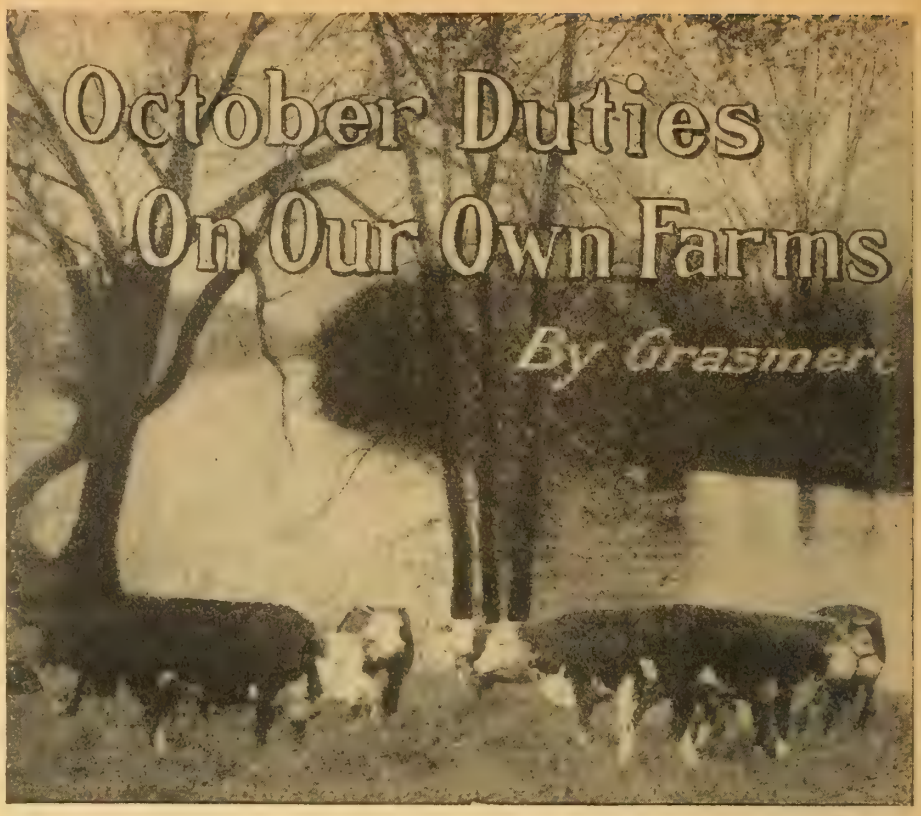

October is a busy month. And yet, we generally are blessed with beautiful weather in Canada during the whole 31 days. It is gathering-in time; the plowing time; the closing of the fall fairs; the holding of auction sales; the threshing of grain, buckwheat and clovers; the time for marketing of many farm products; Thanksgiving time; silo filling and root gathering time—in fact there are so many things to do, that the farmer and his family are never at a loss for a job. Perhaps even he is too busy to enjoy the splendid sunny days, the beautiful sunsets, the rosy fruit hanging ripe for the ingathering or the splendid delights of farm life in general. Too tired to be pleasant; too rushed with the varied succession of duties to look up!

If so, there is something wrong. Some management or mismanagement has made the situation as it is Does the farmer have to work early and late, in season and out to make the mare go? Is he grasping after dollars so much that he cannot rest a minute from the ceaseless moil?

Really, what is the matter? Must the man on the land forever be the world's hod-carrier? Must he hew wood and draw water for industry and commerce at an underling's pay?

Indeed it often looks that way. The taunts of some city people after they have made a pretence of helping out in the harvest are hard to stand. The insolence of plush and panama often override respectable consideration.

And yet, is not the farmer and his work the real work of the world? Is he not a partner with God in bringing fresh supplies from mother earth for the feeding of the nations? Is he any the less a spiritual giant because he is not engaged in the assembling, manufacture, exploitation and marketing of these products, where too much of the real profit goes?

"The ungrateful farmer!" says one city paper, because he asks $2.50 for his milk, or $2.20 for his wheat, that they (the city fellows) helped to harvest! Ye Gods—no wonder Lowell wrote that—"Wrong is forever on the throne, Right forever on the scaffold."

Even preachers, many of them, can't grasp the moral distinctions, and rail at producer, while condoning the greater returns—the larger unearned increments of the abstractive industries.

After all there is only one way out of all our class and material mix-ups. What is it? —GRASMERE.

General Reminders

Don't forget to clean out the stables and spray with disinfectants. Use plenty of lime.

Mangels won't stand much frost. Turnips can stay out all the month in Eastern Canada.

Prepare to keep all apples in very cool cellars, as scab will develop fast in warm quarters.

Gather all burrs from the fence corners and burn on the land.

Rye, the mammoth white, can be sown all the month.

A top dressing with a manure spreader of the fall wheat will be the best insurance for a good crop.

Watch auction sale bills for possible opportunities to purchase a colt or a calf that you can winter.

The orchardist will do well to give a lime-sulphur or Bordeaux spray this month.

Watch the plowman's team to see that

they are fit. Sore shoulders are evils to avoid.

Get in some gravel for the poultry before the roads break.

Clover seed is going to be dear in price. Save all possible crops.

In grain cleaning and selling, be sure to save good seed for 1918.

Do not waste time by attending every sale, or by buying stuff you do not want.

Buy your feeding grains for the dairy as soon as you can. Have rations arranged for.

Tramp in the ensilage well to prevent loss.

See that fences are good so that the farm flock of sheep are protected from being bred too early.

Save a piece of good pasture for flushing the ewes on before you mate them.

Prepare to market all old ewes and animals that it will not pay to winter.

Perhaps you can get time to put in more tile draining. Nothing will pay the farm better.

Don't sell off the hens. They do pay for their feed.

See that the water services are all right before winter sets in.

Watch that the auto radiator does not freeze up some cool night.

Outline your day's work in the farm office either the night before or early in the morning.

Do not overlook your duties as a citizen, a churchman and a neighbor. The unseen thing is the eternal.

Hog Notes

Last October it was $13 hogs, now it is $18.

Surely it will pay to take care of that sow.

Do not let the litter go back after weaning.

Be sure that the sow and young pigs have a warm, dry bed.

Damp quarters and cement floors are killers of success with pigs.

Cover the cement with boards and use plenty of straw.

Why not a rubbing post in the yard that can oil the pig when he scratches!

The orchard's fallen and wormy fruit makes good pork.

Do not breed the sow until about December 1st.

Buy a purebred sow. The business will pay you.

Feed pumpkins as long as they last.

Keep a supply of clover hay for the hogs. They eat alfalfa and red clover greedily.

Talk to any old hog raiser for any pointers you can get.

In the Dairy

Whitewash thoroughly. Use plenty of lime.

Cleanliness in separator and milking machine spells their usefulness.

Windfall apples are enjoyed by the cows at times.

Be sure you understand feeding well enough to know when a cow is getting all she can use.

Do not breed to a poor sire, and save all the good heifer calves you can.

Palatability and succulence are two leading qualities of a good cow feed.

Did you have any stable hardships and troubles last year? Remedy them now.

Have you any feeding troubles or difficulties in making up a ration. Write the

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THE FARMER'S MAGAZINE
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FARMER'S MAGAZINE. We will have expert advice sent you free.

Do not sell your herd yet. The country needs the milk and dairy products, even if they do hate to pay for it.

If you are hired man on the farm, be a good one, and serve faithfully.

Among the Hens

Readers of the FARMER'S MAGAZINE last month will know that poultry have been paying their way.

Do not sacrifice the hens. Kill only those over 2 years.

Marketing wisdom is the real business now.

All turkeys, geese and ducks are going to bring good money. Fatten them for a fortnight before selling.

Write our service department about any troubles you have. Our experts will answer.

What is your favorite breed and why?

See our special poultry department in this issue.

Sheep Notes

Sheep need more attention than is generally given them.

Weed out the old ones and fatten them on rape or clover.

Secure your clover hay, alfalfa and feeding grains now.

Turnips should be provided for the flock this winter.

Feeding racks can be made on wet days now. There are many styles of them.

What have you found out as the best fall feed? Write us your results.

Some sow millet with the rape. Does it pay?

For ordinary Eastern farms, breeding the ewes after November 10 is the best time.

Spray with lime-sulphur, quite strong, all racks, pens and places where flock touch.

It is a good thing to dip all sheep some warm day this month.

In the Horse Stable

All spring colts should be weaned now and given some grain feed daily.

Provide shelter against our East storms.

Care in feeding new oats, watching the manure, and a weekly bran mash will keep the most of horses healthy.

Perhaps the horse's mouth needs filing.

Good horses are going to be scarce after the war.

Look twice at the halter before leaving for the night.

Handle the young horses at every opportunity. Be quiet, firm, kind and do not tease.

A cedar bush is good shelter for the young stock during the month.

Garden Notes

Pack all root vegetables in sand in a light box. They keep fresher then.

Keep only a few cabbages in your cellar. Hang them up by the roots or turn down on the floor.

Blanch celery for immediate use by putting a few roots in a butter crock and covering with enough water to cover roots. Keep in a dark place.

You can set out rhubarb this month. Make a deep trench in a dry, well-drained place, filling in plenty of manure at the bottom.

Take squashes and pumpkins in from danger of frost. Place in a warm, dry room.

Clean out all berry canes that have borne fruit, all other rubbish and burn.

Store the potatoes in a dark place in a board bin well ventilated.

Leave many of the parsnips in the ground all winter.

Watch the fruit trees for black knot and canker. Cut off and burn and wash part with a solution of corrosive sublimate, but be careful about it as it is very poisonous.

Melons should be put in a dark, but warm, dry room.

Give the strawberry bed a dressing of fine manure, and after frost comes cover lightly with clean straw.

Did you ever try planting the onions and lettuce and radish in the fall? Prepare the beds and try it for once.

In the Greenhouse

Gather all your geranium cuttings from the outdoor plants and put them in sand.

Lettuce and Radish may be planted this month.

Keep the supports a little ahead of the carnations, sweet peas and mignonette.

Spray for aphis and fumigate regularly.

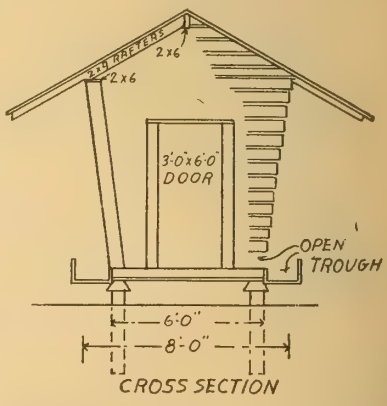
Bee Notes

Profitable bee-keeping demands that the colonies be inspected, fed and got ready for winter. About 30 lbs. of honey is needed to feed each hive throughout the winter.

Some take the hives to the cellar and others build a shed over them with straw packed around the hives. It is not well to leave the hot sun of winter to have direct bearing on the hive or else many bees will be lost.

Auto in Emergency

It is in the case of an emergency that the automobile shows its real worth. There is an instance that illustrates this. A farmer was very busy cutting his fall wheat when to his horror the reel of his binder knocked his little girl onto the knives of the machine. One leg of the toddler had been cut off while the other leg was desparately lacerated. The nearest doctor was eight miles distant. However, the telephone and auto brought the doctor to the sufferer's aid in just twelve minutes. In twenty minutes all danger from bleeding was past. Emergencies of this sort are constantly presenting themselves on every farm.



A self-feeder for cattle would eliminate a great deal of labor on our open feed lots

Some Ironing Ideas

Experienced ironers can generally tell the proper heat of an iron by holding it up to the face, but a better test is to run the iron over a piece of paper, and if it scorches the paper, it would also scorch the fabric.

TO IRON COTTON NIGHTGOWNS, CHEMISES, OR COMBINATIONS

Take the back of the garment, and fold it singly away from the front, iron it a little on both sides, then fold back again with the fronts outside, and iron each until perfectly smooth. Any trimmings or bands there may be should be ironed first, and in the case of nightgowns the sleeves first, commencing with the cuffs. As each garment is finished, it should be hung on a clothes horse to air.

WOOLLEN COMBINATIONS AND FLANNELS

These do not require folding, but as soon as they come in dry, they should be smoothed a little and hung on the horse to air at once. If they are thrown down and allowed to wait they become creased, and these creases will not come out readily with the iron, perhaps not at all. Flannels to my mind should not be ironed, except just the collars, bands, or trimmings.

SHEETS AND TOWELS

These are generally mangled first, then finished off with the iron. Pillow cases the same, or they may be ironed entirely, but mangling is considered to keep them a better color than if they were ironed entirely.

TO IRON SKIRTS OF DRESSES

These require a skirt board if they are to be done with any comfort. This is a board which any carpenter will make, about twenty inches wide at one end, and tapering to eight at the other, the length about forty-four inches. It is prepared exactly the same as the ironing table, that is with a thick flannel covered with a piece of sheeting securely nailed on the under side. To use it place the skirt to be ironed over, and lodge each end of the board on two chair backs or something convenient, with an old sheet laid on the floor underneath, in case the skirt should drop. The small end should be to the left, where naturally the top of skirt should be, and as the ironer goes along she turns the skirt round on the board, till she comes to the place from which she started when the skirt is finished. Should there be any frills or other trimmings, they must be ironed first on the table. Linen or cotton skirts are best ironed on the wrong side, white calico, or nun's veiling on the right. Of course skirts require damping and folding as well as other things, and the thicker they are the damper they should be.

STARCHED COLLARS AND CUFFS

If these are starched in cold water starch, as is best, they need not be left in their rollings for more than two hours, and, indeed, less time would answer for ladies' collars, which are somewhat thinner than gentlemen's. Lay them out flat on the ironing table, and iron first with a thin piece of rag over; this prevents the starch from sticking. Then iron uncovered on both sides till dry and smooth, and, if required very glossy, finish off with a polishing iron.

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Womens' Organizations

Making Better People

IN Saskatchewan, we believe that our Public Health laws are second to none in the Dominion, and that the machinery operating under the direction of the Commissioner is doing most effective work toward the conservation of health in this province. Gradually, however, it is beginning to sink into the public consciousness, that it is a very difficult thing, indeed, to legislate into men and women, desirable habits of living, and, also, that because childhood is an impressionable period, we are able to mold after our ideals, the hygienic habits of the child. Toward this end, there is no other agency which can offer such opportunity as our great public school system, and it was the recognition of this fact which impelled the Minister of Education to organize a branch of School Hygiene in connection with the Department of Education with the idea of bringing an effective health programme into every school in the province.

At the present time this work has to be undertaken largely by the teachers, Special lectures are given to students in the Normal Schools, and to teachers at Conventions and Institutes, and it is most gratifying to see some of the beneficial results that have already been obtained. In reply to a questionnaire recently sent out by the Department of Education, many teachers report that they have purchased a Snellen's Eye Test and have tested the vision of their pupils. Several report testing their pupils' hearing by the ticking of a watch and the whisper method. Others have been on the look-out for enlarged tonsils and adenoids, and carious teeth, and, by reporting defects to the parents, have been able to have the children put under medical or dental care. One teacher in a foreign-speaking settlement reports that he keeps a record of all the children who brush their teeth each morning and this has resulted in almost all the children acquiring this habit. Another teacher reports that she purchased toothbrushes for all her pupils, and they all brush their teeth at noon. Still another reports that after her school was closed for three weeks on account of mumps, she was able to induce her Board to purchase individual towels and individual cups. Scores of similar cases could be quoted.

The four phases of Health work in the schools which have been brought, through these lectures, to the notice of teachers are:—

I. Hygienic teaching, and the teaching of Hygiene.

II. Maintenance of good, hygienic conditions in the school.

III. Detection of physical defects which will retard progress in school.

IV. Detection and exclusion of cases of parasitic and contagious diseases.

Section III. of the School Act of Saskatchewan provides that the board of trustees in the town districts may appoint an attendant medical officer, a dentist, and a school nurse, or any one or more of such officials, when thought advisable, and may prescribe their duties. For some years several of the cities in the province have taken advantage of this enactment, and have organized school health systems. But in this province, our educational problem is largely a rural one, and it has been found by recent examinations that the amount of physical defectiveness such as defective vision, defective hearing, enlarged tonsils and adenoids, carious teeth, skin diseases, etc., found among rural school children, is about the same percentage as that found in the cities, while the sanitation of the rural school lags far behind. Hence the necessity for extending this work to all the schools is apparent.

While the problem has not yet been worked out, it would appear that for the successful carrying out of this work, a number of specially trained school nurses will be required. One such nurse could supervise the health of school children in from fifteen to twenty schools. Her function would be to form the connecting link between parents, teachers, family physician, dentist and medical health officer, and thus to work out an effective health programme for each school.

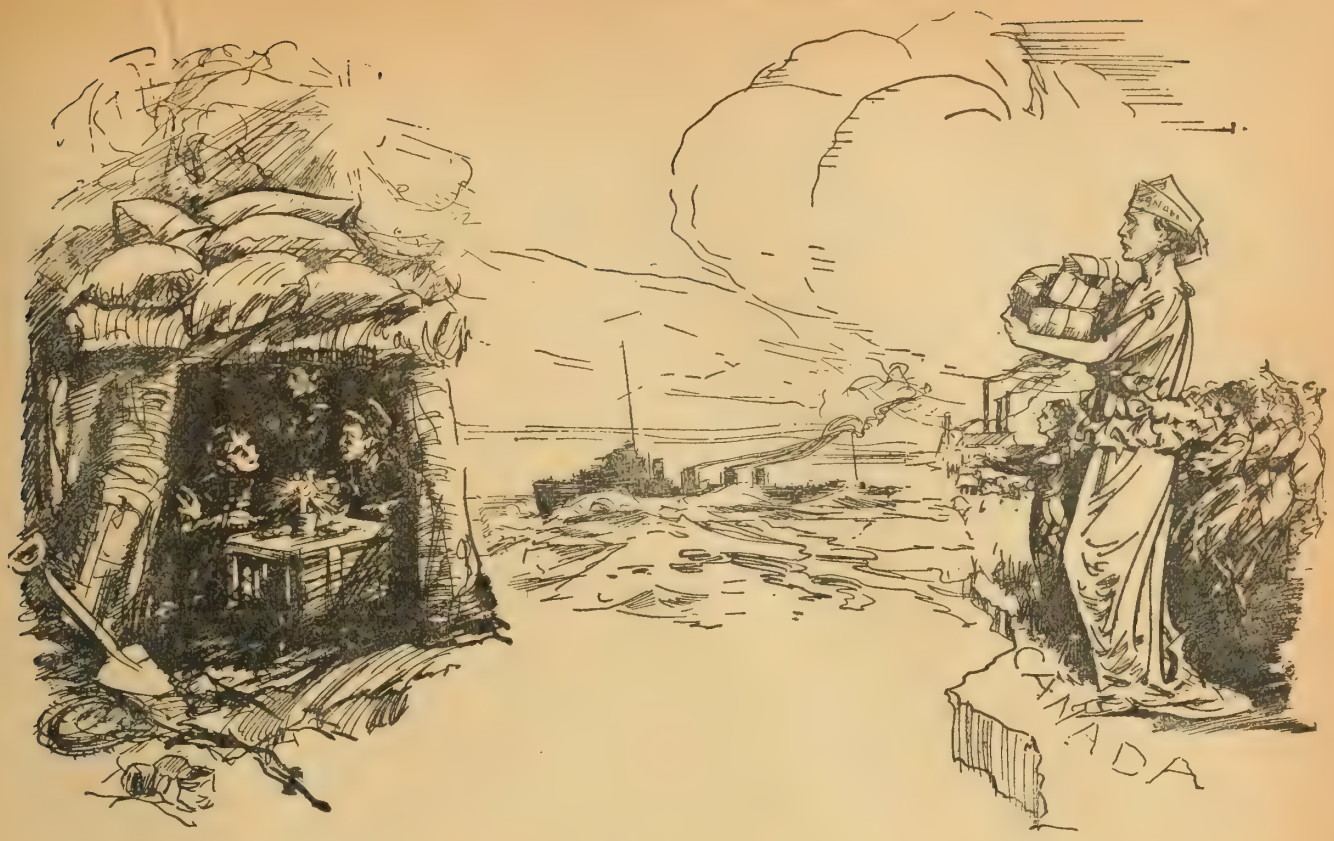
In order to make a survey of the sanitary conditions of the schools in Saskatchewan a questionnaire was sent out by the Department of Education to all village and rural schools, asking every kind of information about the grounds, rooms, toilets, heating, backward children, etc.

About 3,000 replies have been received and the information, when tabulated, will give the Department an indication of the problems with which to deal.

In connection with the School Hygiene Movement, it is significant to note the practical interest taken in it by the Saskatchewan Home-makers' Clubs. At their convention held in Saskatoon, June, 1916, a resolution was passed, petitioning the Government for Health Inspection of all schools in the province. At their convention held in June of this year, through the kindness of Miss DeLury, Director of Home-makers Clubs, in Saskatchewan, the writer was afforded an opportunity of bringing an outline of the work to be undertaken to the attention of several hundreds of the delegates, and with eagerness many of them pledged themselves to direct the energies of their neighborhoods towards securing a rural school nurse.

It has been urged by some that Health Inspection for schools should be compulsory, and that there should be legislation compelling parents to have their children treated when defects have been pointed out to them. This is an extreme form of paternalism which is not in keeping with a Democratic form of Government.

—*Jean Browne.*



For All We Have and Are—

To-night—under the wide canopy of Heaven, trenched in a line from the North Sea to Switzerland, pacing decks of ships, peering into darkness, that holds perils such as God's omnipotence never formed, millions of men are braving death for us.

Not one among whom but holds some woman dear (even though she be only the Dream Woman of his finer moments).

And with thoughts of "her" comes that *other* thought of the German Michael loosed upon the earth.

Do you wonder why our men fight hard?

Think, then, of what a privilege it is for us women to help send sufficient of the right kinds of food for the bodies of such great souls.

Think of this and then ask yourself whether you will forbear to substitute other foods for the white bread, beef and bacon you and your family now consume; and, in addition, prevent the waste of a single ounce of food in your home.

Your service of sacrifice is so small. The result will be so great—you surely cannot refuse.

Serve Our Heroes—Sign and Live up to Your Food Service Pledge

Woman's Auxiliary, Organization of Resources Committee in Co-operation with The Hon. W. J. Hanna, Food Controller

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The Little Miracles of a Quiet Life

By NORAH T. HENDERSON

AND we passed a farmhouse where the cool green grass ran up uninterrupted to the open doorway, and the roses climbed to the window sills, and the trees, massive and tall stood sentinel-wise around. We saw a child playing ball beneath an open window and the face of a woman as she leaned out to watch him at his play;—and then we had left it far behind upon the road! But my fancy led me across the threshold and into the life of that farmhouse, and I pictured a life there where one might have opportunity to think, and to be kind, and to be hospitable, and I contrasted it to the wearing, tearing, glittering life of the city, and I longed to be there to hear the sweet homely noises of farm life, and smell the good clean scent of the clothes dried upon the grass, and see the men come in to the long table with the sweat of honest labor on their brows and the smell of the good brown earth upon their clothes. I longed for the peace with toil, the contentment with adversity, the atmospheric magic of "the farm"! I hungered for it as I have never hungered for anything in my life,—I went back years and years to the time when I too had been a part of it, and in one moment I felt the shackles of that other life fall from me and I saw through it all and felt how *small* I had become, how dim were the eyes with which I looked at nature, how deaf the ears that listened to the voices and the carolings of her vassals, how dead the spirit that had once been so alive to her!

To take the white flour in my own hands and knead it into big fresh loaves for hungry appetites,—to count the trim sealers; peach and plum, raspberries and cherries, by rows in my deep store, cupboard; to see my strong limbed children run across the fields; and then when night came to fall to sleep gently, easily; body tired, mind free with the fresh breeze from the open window to waft into my dreams all the beauty and the mystery and the magnetism of the far smiling land.

Ah, this is where my dreams were born and this where I would have them come to rest!

Does that make you feel any better, you tired woman who are sick of your canning and your little children's mending, of your husband's appetite and your washing and your churning? Does that make you feel any better? Are you interested? Well, that is all I wish you to be for the present.

I was asked if I would write an article on Woman's Work on the Farm, and something in the nature of a "planning ahead" as in man's work at this season. I sat down with the firm intention of doing this, but before I had written a few lines my pen was idle in my hands and I fell to thinking of all the different methods of all the different people I knew and I tried to add them and subtract them. I tried to multiply them and divide them and from all this to find the sum total, and it was then that I became so hopelessly bewildered, and conscious of my inadequacy to grasp the situation! By what right had I, a mere dabbler in words, an impractical idealist to set up any standard by which a woman should go? I was amazed at my own conceit to think that I could ever have dreamed of such a thing, and I shut up my book and went for a walk; and on my walk I stopped to see a friend of mine and I told her my perplexity and asked her what she thought about it.

"Now what would *you* care to read in such an article?" I said.

"Well," replied this friend, "you've come to the wrong person if you wish to hear eulogies on this subject. I must be different from most people, but somehow or other whenever I read an article of this kind, there is always some reason why I cannot follow it out. Either I haven't the things required, or the time or the money required,—there is always something. I begin to read of some new plan with interest and expect to be able to use it in my own work, but before I have been reading long, something crops up and I have to go back to my own old way. I dare say it is my own fault and that I am exceptional, but, oh I would like to find an article that just left details alone for once and made me feel my own little ways are best."

So it was that walking home that evening I asked myself why I should not try and write something that would make that woman that is different from most people "think her own little ways are best"!

Then let the practical woman turn over the page and get down to business elsewhere,—this is not for her, and we confess to feeling uncomfortable in her presence.

She who has never known the difference of spirit in laying her husband's shirts on the beautiful green grass and watching with joy the snowy whiteness in contrast to the green,—to merely "pegging out the clothes" can never be one of our "mystic brotherhood" and needs no immaterial relish to help her through her day's work.

Let her turn to the page entitled "washing days"—she will get more good from that;—ours are not the kind that are written about. They are never the same day two weeks running, and sometimes there is no soap.

I do not fancy that she will be much the loser,—day after day, week after week there are multitudinous articles appearing for her benefit. This is just one

little odd one sandwiched in between the others from an odd person to odd people,—people who are weak and foolish enough as I am, to need an uplifting of toil through the imaginations of the spirit!

Did you get up this morning and feel that everything was wrong? I did; and I just ran my head against the wall and hit it hard. Did you? Or did you go round the corner to the opening?

In any science there are certain methods by which to overcome the ordinary difficulties of the scientist,—prescribed rules to apply at certain junctures. Why not the same principle for the science of the life beautiful?

Why should we not go experimenting, you and I, in this science of ours,—why not?

I was speaking on this very subject to a friend not long ago when she told me the following little anecdote from her own life which could not better illustrate my meaning.

"I used to know, many years ago in a little country corner in England, four sisters, middle-aged maiden ladies who had kept house together for years. They were dear souls and I was fond of them all, but somehow I took them too much for granted. Because they were always pleasant and placid with each other as with everyone else, I had fallen into habit of regarding them as vegetables! Do you know what I mean when I say that? I mean people who have no problems such as you and I have to face, just because they are too "unhuman" to raise the problems for themselves! Yes, I think just that!

Well, one evening I called in inexpectedly upon them, and as their little maid opened the door of their drawing room for me, the four sisters rose in an unusual fluster from a card table and to my surprise and rather to my discomfort I found them all in evening dress!

As I sat talking I could not help noticing a rather strained air about them, although each appeared just as pleasant as ever, and naturally there occurred to me the fact that they had invited guests for the evening and that I had put in an appearance at precisely the wrong moment! I made two or three attempts of suggesting that I should leave, but they seemed to be prepared for this attitude and begged me in such genuine tones to stay, and appeared so delighted with my company that I remained until late in the evening and to my surprise no one else appeared on the scene. But I was to learn the true solution in a very short time, for when I rose to take my leave, as if by prearrangement the three elder sisters remained in the room while "Miss Flossie" accompanied me into the hall. As she was helping me into my coat she put her arm round me in a confidential manner, and in a sweet little way she had said:

"I expect you must have thought it rather funny, my dear,—we all being 'dressed up' to-night. I was afraid that you thought we were expecting people in, but that wasn't the case at all. You see, living here together, all by ourselves, and so seldom seeing people sometimes gets rather wearing on our nerves, and just now and then things come to a climax, and we none of us seem to 'fit in' and everything looks wrong and life appears at all odds and ends; so when times like this come we always have a certain,—'remedy' you might call it. We go to our rooms and put on our prettiest dresses and make ourselves look as nice as possible. Then we tell Mary to have an extra nice little supper and put the best silver on

IT IS NECESSARY

THE GREATLY DECREASED PURCHASING POWER OF OUR INCOMES DEMANDS THAT WE CONCENTRATE OUR FOOD PURCHASES UPON SUBSTANCES OF HIGH FOOD VALUE.

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Handsomely bound in grey and gold the PURITY FLOUR COOK BOOK offers 189 pages of the latest tried information upon the preparation of all manner of nutritious dishes—from delicious and strength-giving soups to dainty, tasty desserts. A work from the pen of Miss E. Warner, Specialist on food preparation and Domestic Science Expert, and carries the approval of the famous Macdonald College, its text is in the easily understood and non-technical language of the home kitchen.

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Boys all over the country are earning lots of money and are acquiring business experience. A card will bring full particulars to any boy or his parents.

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This is the title of a book, designed to inform all those about to build a new home, or make over an old one, concerning the problems which arise inevitably, such as

choosing the site
the owner's own ideas
selecting the architect
choosing a builder
the construction of the home, and so on

The book has been prepared by H. W. Desmond, editor of *The Architectural Record*, and H. W. Frohne, associate editor, and so is the work of men of broad experience and fine judgment.

This volume is very handsomely put up, and is worth many times its price to every prospective builder. Sent post paid on receipt of price, $1.50, with 15c extra for postage.

THE MACLEAN PUBLISHING COMPANY, LIMITED

143 University Avenue - - Toronto, Ontario

the table and mother's old china that's in the case in the dining room, and which we hardly ever use;—then we all come down and entertain each other and the whole atmosphere seems changed and we look at life and each other with totally different eyes!

"Of course we know we couldn't keep it up and that it is only just for an evening;—but that is all we want, just time to catch up. We are all at high tension that one evening and we must make everything go nicely and easily or we would get angry and cross with each other and be miserable for days whereas, this just tides things over, and the next day 'ordinary' life is quite good enough again!"

What about this morning when you and I got out of our beds feeling so tired of everything? Why did we not have our remedy ready? Why did we not do our hair especially nicely, and put on a clean dress, and our second best pair of shoes? Why didn't we put a nice clean cloth on the breakfast table and ask some one to pick a big bunch of flowers? Why didn't we make coffee instead of tea, or chocolate instead of coffee and use that cake we made yesterday, just because we never have cake for breakfast? Why, in the name of wisdom, didn't we put away that washing that loomed up over the whole day and will make us cross and tired and miserable for the next two days? Why not do those nasty bits of work on the days that we feel bright and happy? They will cost only half the effort then!

This morning we should have been content with just "making things look nice";—we should have gone out and fiddled about with our flower garden and paid a visit to our two day's old kittens in the barn? We should have let things go easy, and to-morrow we could have more than made up for lost time. Also, do you not think our menfolk would sooner come in to dinner finding us happy and cheerful, and the washing on a Tuesday instead of a Monday, than tired and cross and *depressing?*

Sometimes I think we are too careless of the fact that there is an art, the greatest of all arts,—of the life beautiful—that is ours for that studying; with no set hours to put apart from our work-a-day life, but all the hours of the day from sunrise to sundown;—the house, the barn, the garden, the wide fields, our studio! What sketches, what studies, what harmonies and color-tones may we not be studying; consciously, carefully treating; not as some novice that by chance strikes a harmonious chord, but afterwards is at a loss to account for the manner in which he found it; but as a student, knowing all the rules of counterpoint and harmony who strikes a chord from the understanding of the relative value each note has to each!

This is a subject worthy, surely of consideration. I have merely touched suggestively upon it as one might lightly play a bar of some theme that would suggest far more than its own few notes to the ears of those attune to its melody.

A fresh breeze comes in from my open window and rustles the paper as I write. A shower has refreshed all the parched earth and the scent of the grasses and the flowers and "the good brown earth" are borne in to me! I am reminded of a verse that I too often forget—

"Life is sweet brother,
There's day and night brother, both sweet things;
Sun, moon and stars, all sweet things;
There's likewise a wind on the heath."

OUR FASHIONS

READERS of the women's departments of the FARMER'S MAGAZINE *are reminded that the editors will be glad to answer any questions as to styles, costumes, patterns, household wants, that the subscribers send in. If there are any other patterns that are desired we would appreciate any expressions of opinions as to service. The large number of useful articles in this issue dealing with topics of every day use to our women folks will appeal to every reader of the* FARMER'S MAGAZINE. *In writing, use one side of paper only, giving correct name and address. Send all letters to the Editor of the Household Department. By keeping your magazines on file you can refer to back numbers for patterns and order by their number, naming the issue in which they appeared.—Household Editor.*

8512

8449

8449.—ONE-PIECE DRESS FOR MISSES AND SMALL WOMEN.—In size 16 years the dress measures about 2½ yards at the lower edge. As shown, size 16 years requires 4 yards of 42-inch serge with 1¼ yards of 36-inch flannel for collar, cuffs, sash and pockets. Price, 15 cents. Sizes 16, 18, 20 years.

8512.—DRESS FOR MISSES AND SMALL WOMEN.—In size 16 years the skirt measures 2⅜ yards at the lower edge. As shown, size 20 years requires 4⅜ yards of 42-inch gabardine for dress with ¾ yard of 36-inch satin for bands and sash. Price, 15 cents. Sizes 16, 18, and 20 years.

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A beautifully illustrated Fur Style Book—giving advance information on furs and fur fashions—contains 40 pages with 125 illustrations of up-to-date Furs and Fur Garments—All these illustrations are photographs of living people—thus showing how the Furs REALLY appear—it shows Furs for every member of the family. Don't fail to send for this book TO-DAY—it is now ready for mailing and will be mailed as requests are received.

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THE
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8335.—Boys' Blouse.—Sizes 4, 6, 8, 10, 12 years. 8116.—Boys' Knee Trousers.—Sizes 4, 6, 8, 10, 12, 14 years. As shown on the figure, 10 years requires 2¼ yards of 36-inch white madras for the blouse, and 1⅜ yards of 36-inch natural linen for the trousers. Price, 15 cents each.

8175.—Boys' and Little Boys' Overalls.—As shown on the figure, size 6 years requires 2 yards of 36-inch natural khaki for the overalls. Size 4 years requires 1⅞ yards of 27-inch, or 42-inch material. Price, 15 cents. Sizes 2, 4, 6, 8, 10, 12, 14, 16 years.

Blouse—8335
Overalls—8175

8406

8406. — Boys' Suit. — This is a blouse with one-seam sleeves in full or shorter length and plain trousers. Size 4 years requires 2¾ yards of 27-inch striped gingham for the suit, with ⅜ yard of 36-inch pique. Price, 15 cents. Sizes 4, 6, 8, 10 years.

7944.—Dress for Misses and Small Women. — Having a smocked blouse to be slipped on over the head and in either of two lengths, one-seam sleeves in full or shorter length and a two-piece skirt. In size 16 years the skirt measures 2 yards at the lower edge. As shown on the figure, size 14 years requires 5¾ yards of 36-inch crepe for dress. Blanket stitch used on collar and cuffs. Price, 15 cents. Sizes 14, 16, 18, 20 years.

7944 8319

8319.—Dress for Misses and Small Women. — Having a blouse to be put on over the head, one-seam sleeves and a straight plaited skirt. In size 16 years the skirt measures 3 yards at the lower edge. As shown, size 16 years requires 2¼ yards of 36-inch flowered tussah silk for blouse, ⅜ yard of 36-inch plain tussah silk for collar and revers and 3⅜ yards of 36-inch flannel for skirt. Price, 15 cents. Sizes 16, 18, 20 years.

Hints for Fall and Winter

A Handsome Design as Featured in the Dry Goods Review

When the fall months roll around and the winds begin to carry a little chill, this tan velours coat will be most welcome. The roll fur collar adds to the warmth of the coat and makes it a much better companion.

Soberness and simplicity are the striking characteristics of the models displayed this season. Tailored costumes have rather narrow skirts with long coats, the latter with high collars or big cravats, and cord girdles, finished at the end by fur pompons. Checked diabures, duvetyn, serge and velvet are the materials chiefly employed, combined with otter, beaver, kolinsky and moleskin. The popular shades are American and navy blue, as well as tobacco brown, copper and Bordeaux.

NOTE.—*This illustration of a new style is kindly loaned by the editor of the Dry Goods Review, and we do not supply patterns for it. The pattern department on another page will be glad to answer any questions about getting new patterns not shown.—Editors.*

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Because it is healthy, soft, comfortable, durable, absorbs moisture and perspiration quickly, thus preventing colds. It is the only natural covering for the little one's body. For the children there is underwear, stockings, caps, coats, sweaters, night dresses, night shirts, pyjamas, slippers, dressing gowns, etc. For sale at Jaeger Stores and Agencies throughout the Dominion.

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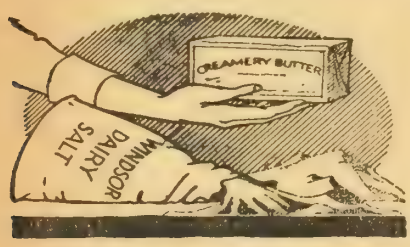

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THE MONTH'S RECIPES

By WINNIFRED MARCHAND

SOME PICKLES AND SAUCES

Tested recipes which will help our larders during the coming winter.

Pickled Pears

½ peck small pears
2 pounds brown sugar
1 pint vinegar
1 ounce stick cinnamon
½ tablespoonful whole cloves

Boil sugar, vinegar and spices together for fifteen or twenty minutes. Peel the pears but do not remove the stems. Put into the syrup and cook slowly until soft. Seal in glass jars.

Pickled Peaches

Peaches are pickled by the same rule as pears. Pour boiling water over the peaches, a few at a time. Rub them briskly with a rough towel to remove the wool. They may be pared if preferred.

Oil Pickles

50 medium sized cucumbers
1 cupful sliced onions
1 cupful salt
1 cupful white mustard seed
½ cupful black mustard seed
1 tablespoonful celery salt
1½ cupfuls olive oil
2 quarts vinegar

Select cucumbers of uniform size. Wash thoroughly and cut off ends. Slice the remainder thin without peeling. Select onions about one inch in diameter, peel and slice thin. Put cucumbers and onions in a stone jar, cover with salt and let stand ten or twelve hours. Drain off the liquid. Mix the mustard seeds through the pickles. Pack all in a stone jar, cover with the oil and the remainder of the vinegar thoroughly mixed together, place a weight on top and keep the jar covered. These are ready for use in three or four weeks.

Chili Sauce

½ peck ripe tomatoes
1 red pepper finely chopped
1 onion finely chopped
2 cupfuls vinegar
3 tablespoonfuls sugar
1 tablespoonful salt
2 teaspoonfuls cloves
4 teaspoonfuls cinnamon
4 teaspoonfuls allspice

Peel the tomatoes and slice thin. Put in a granite kettle with the other ingredients and bring gradually to the boiling point. Cook slowly two hours. Seal in sterilized jars.

Tomato Catsup

½ bushel ripe tomatoes
3 bay leaves
1 lemon
1 teaspoonful black pepper
2 teaspoonfuls mustard
1 teaspoonful white pepper
3 onions
1 teaspoonful red pepper
1 scant cupful salt
¾ pint vinegar

Wash the tomatoes thoroughly and cut in pieces: cook with the bay leaves, lemon, white pepper and onions about two hours. Strain through a colander to remove the skins. Mix the remainder of the spices and stir into the strained portion, add the salt and the vinegar, stir until well mixed, return to the large kettle and cook slowly till the mixture thickens and is cooked down about one-half. Put in small sterilized bottles, seal and keep in a cool, dark place.

Spanish Pickles

1 peck green tomatoes
4 medium sized onions
1 cupful salt
½ ounce cloves
½ ounce allspice berries
½ ounce peppercorns
½ ounce brown mustard seed
2 cupfuls brown sugar
4 green peppers

Wash the tomatoes and remove all stem ends. Slice these crosswise. Peel onions and slice thin crosswise. Sprinkle alternate layers of tomatoes and onions with salt and let stand from ten to twelve hours. Drain, put in a granite kettle, add other ingredients and enough vinegar to cover. Heat gradually and boil slowly about half an hour.

Bordeaux Sauce

1 quart chopped green tomatoes
3 onions cut fine
2 quarts sliced cabbage
1 red pepper
1 quart vinegar
½ teaspoonful allspice
¾ tablespoonful mustard seed
1 cupful brown sugar
2 tablespoonfuls salt

Chop tomatoes, onions and cabbage to uniform fineness. Mix together and add all the other ingredients. Boil one-half hour then seal in small jars.

This is a good relish for cold meats.

Gooseberry Conserve

5 pounds gooseberries
5 pounds granulated sugar
2 pounds raisins
½ pound walnuts
4 oranges
½ cupful water

Remove the stem and blossom end of the gooseberries and wash thoroughly. Wash the raisins and remove all stems. Put gooseberries, raisins, juice of oranges and rind of one orange together with the water and sugar in a large granite kettle. Cook slowly one hour, add the chopped walnuts and continue cooking until thick. Stir the mixture frequently to prevent burning. Seal in sterilized jars.

Orange Marmalade

1 dozen oranges
4 tablespoonfuls lemon juice
4 cupfuls water
8 cupfuls sugar
1 teaspoonful salt

Drop the oranges into boiling water for a few minutes, then remove the rind from the pulp and peel off all the white bitter portion. The boiling water aids greatly in loosening the pulp. Put the skins in cold water enough to cover, add the salt and boil until the skins are tender, then drain. Remove all white portion and cut the yellow into shreds, using scissors. Add the pulp cut into small pieces, all the juice, sugar and water. Boil slowly for two hours until thick. Turn into sterilized jars and seal.

Grape Conserve

3 pints Concord grapes
3 pints granulated sugar
1 pint water
2 oranges
½ pound raisins
½ pound walnuts

Wash the grapes, then press the pulp from the skin of the grape. Put the pulp into a porcelain kettle, heat through, press through a colander to remove the seeds. Cook the pulp, skins, sugar, orange juice, water and raisins together one-half hour, add the chopped nuts, cook a minute or two longer. Seal in jars.

Celery Sauce

Mrs. T. B., Ont.—I am a subscriber to the FARMER'S MAGAZINE *and like the cooking recipes very much. Can you give me a recipe for making celery sauce or celery chowder. I have a nice lot of celery and I will make some if you include this in next month's issue.*

Answer.—The following recipe has been found to be a good one.

1 dozen heads celery
3 onions
¼ lb. mustard
1 tablespoon pepper
2 tablespoons salt
½ tablespoon tumeric
3 cups sugar
2 quarts vinegar

Chop onions and celery. Simmer all together for one hour and bottle.

HOME-MADE RUGS

In these terrible war times when on every hand we hear "retrenchment" and pleading appeals for help for the starving families of Europe—together with the ever present needs of Red Cross and Patriotic Fund—we naturally turn to some economical way of replacing the wear and tear of what we consider necessities in our homes—and so the "Handicraft Guild" has been organized—a branch of which is now working in our little "Island."

Its object is to revive some of the almost forgotten arts of rug making, cloth weaving and bed spreads, besides other useful and ornamental articles at a small cost.

In connection with the Guild they have prepared a book of directions for home dyeing—from barks, and vegetables, all within reach of any country people, these dyes besides being much cheaper, are fast colors. The book can be bought for a few cents.

In this article I will try to describe the making of hooked rugs which are to be found in most of our P.E. Island country homes. They are scarcely known—though much admired by our visitors from the United States. As high as $25 has frequently been paid by Americans attending our Provincial Exhibitions, for one hooked rug, one and a half yards long.

First you need a hook with which you pull the loops through the canvas. This can be bought by the name of mat hook or made by any blacksmith.

Four frames two to fit the sides and two the ends of your mat can be made from a three inch board one inch thick. Allow both sets a foot longer than your rug requires, so the clamps which hold the four corners will be tight when your mat is sewed in and stretched.

To each of the side frames fasten with common tacks a strong double fold of cotton, to which your canvas is sewn, after it has been cut perfectly straight by a thread—hemmed, and bound with braid, or a narrow strip of cloth. Fasten your end frames to the canvas, with twine after the mat has been stretched and fastened perfectly square with the clamps. Now rest your mat on four stools or chair backs.

Very pretty stamped canvas can be bought ready for hooking. It is bought in nice rug size with floral, and scroll designs, and is marked as to color, which you can vary to taste. The plain canvas—the same article as is used for sand bags, in the present war and consequently, much harder to obtain, and more expens-

Continued on page 43.

"IMITATIONS ABOUND."

Be on the alert. Don't accept a substitute for "SALADA" simply because it leaves your dealer a larger profit. Demand

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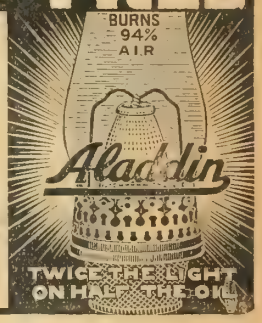

How Busy Are You?

Are you any busier than Ernest B. Jolliffe, of Stratford, Ontario.

Mr. Jolliffe is a business man but—he finds time in which to obtain subscriptions to MacLean's and Farmer's Magazine.

He likes to get out in the open and make new friends and is well repaid for time so spent.

What he has done you can do. Are you too busy to sell us some spare time at the rate of One Dollar an hour. Think it over. Then write us. We will give you full particulars.

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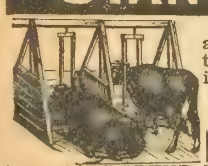

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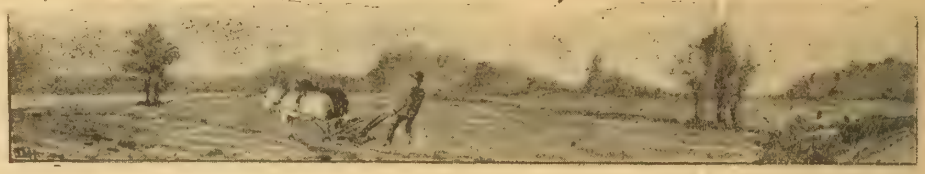
Practical Field Methods



Use of Lime

From a summary of recent experiments on the use of lime, conducted at some U. S. agricultural experiment stations, the following facts may be selected as noteworthy: At the Pennsylvania station during a long series of years it was found that the use of burnt lime gave no crop increase, while pulverized limestone showed a crop-producing value of $1.20 per ton of limestone used. No evidence was found that caustic lime causes the loss of soil nitrogen by the destruction of organic matter to any serious extent. The Rhode Island station has, during the past twenty-two years, conducted experiments on the effects of lime on 280 different varieties of flowers, trees, small fruits, grasses, clovers and miscellaneous crops. Lime is used to neutralize excess acid in the soil, as well as to increase the available calcium plant food. The Rhode Island experiments show that the difference in the residual effect on soil acidity of sulphate of ammonia and nitrate of soda is quite marked. Among the plants found most sensitive to soil acidity are asparagus, barley, beets, celery, leek, lettuce, onions, clover, spinach, and tobacco. At the Iowa station the lime requirements of the soil were found to amount to from 3½ to 5½ tons per acre. After the acidity of the soil has been neutralized, the addition of a ton or two of limestone per acre every five years appears to be sufficient.

Cleaning Red Clover Seed

The seeds of most of the weeds that grow in red clover and ripen at the same time are of such size that they are difficult or impossible to remove by screens in an ordinary fanning mill, says the Dominion Seed Laboratory. Few fanning mills are equipped with screens for cleaning small seeds; indeed, most of them are not designed for this work.

Seed that is rejected because it contains a very large number of small weed seeds or that contains only a few more weed seeds than are permitted in seed that may be legally sold under the Act may often be cleaned to grade without heavy dockage provided the proper sieve is available.

The 4x24 woven wire screen (contains 4 wires to the inch one way and twenty-four the other) is a very useful screen for cleaning red clover seed. It will hold all the good clover, allowing the smaller impurities to pass through. This sieve should take out practically all of the pale plantain, much of the mayweed and lamb's quarters and many of the ribgrass seeds as well as shrunken clover seeds.

The 22x22 woven wire screen is very useful in the lower shoe for taking out sheep sorrel and seeds only slightly smaller than the clover. In some cases the 20 x 20 may be required but this will allow considerable of the smaller clover to pass through.

Clover seed usually contains few weed seeds larger than it is. Ragweed, if none of its outer hulls has been removed in threshing should be separated by a zinc screen, containing perforations 1/15-in. in diameter. This sieve also runs off sticks, pieces of straw and anything larger than the clover.

Hulled ragweed, docks, catchfly, foxtail and black medick are very near the size of clover and are impossible to remove by means of an ordinary fanning-mill. Fields must be cleaned of these weeds before seed can be grown.

If there is a power cleaner within a reasonable distance it will usually pay to have seed cleaned by it provided it is properly equipped and operated.

Home-Grown Seed Best

Mr. R. A. Petch of Meaford has 23 acres sown to alfalfa grown-seed, one field of 15 acres was sown in two parts, one by his own farm-grown seed and the other by imported seed. Both parts received the same cultivation, and were treated with soil from an old alfalfa field before sowing. He estimates that the first cutting from the former will yield two tons per acre, as compared with one and one-quarter ton from the latter. There is a marked difference to the stand of these two plots. Weeds and off-colored alfalfa plants are beginning to show up in the plot sown with the imported seed. He intends to grow all his own seed, and increase the acreage as he secures three cuttings per year and has not suffered any loss by winter injury, and the yield and feeding quality outclass any hay he has ever sown.—H. C. Duff.

Marketing Wheat Slowly

That experience is a stern yet effective teacher is being demonstrated once more, this time in the case of Saskatchewan farmers. Last year spelled great anxiety and even serious loss for many of our grain growers, on account of the lack of proper storage facilities at home when the threshing season came. This year will see the building of granaries all over the country.

It has been the practice of our farmers, especially those of the "starter" class, to have the wheat immediately from thresher to elevator or to a railway car for shipment if such car could be in readiness at the proper time. This idea did not work out to advantage in the fall of 1916. Because of the scarcity of cars, elevators were forced to stop buying at certain times and often for a long period in case of low grades. For the same reason farmers could not ship their grain. Thus many were compelled to hold wheat for which proper storage had not been provided and hence the anxiety and loss that has taught our growers of grain that alert prepared-

ness is as necessary in wheat raising as in war or any other undertaking.

The granaries being built this year in Saskatchewan are of various kinds according to the financial state of the builder. If he is well-off, there is a fine galvanized iron grain house erected. If the farmer be in moderate circumstances, his granary will necessarily be of lumber; while our "starter" builds of poles or logs and seals the crevices with homemade plaster. But, whether the monetary state of our farmer be rich or poor of one thing he is making certain, that is that he will have somehow sufficient storage space for his entire crop from damp if so be the need arises.

The province-wide building of granaries will no doubt facilitate matters greatly. The grain will move to elevators and cars more slowly, and, so, much of the congestion of former years will be avoided.

Another advantage, which many foresee to follow as a result of this wholesale building, is that the farmer will receive more nearly his due than when he sold his grain at once regardless of price or prospects of advance.

Selling locally has often cost our farmers a great deal by the subsequent loss of a grade with corresponding higher price.

The experience of 1916 was seemingly necessary to check the wasteful hurry in which many farmers have indulged.

There was certainly excuse for the hitherto great rush to sell wheat. The greatest numbers of our grain growers were in debt, and, these debts accruing much interest made the debtors anxious to dispose of their wheat as soon as possible in order to pay their bills.

That this method, in most cases, lacked wisdom was proven last fall. Cases are known to the writer where the forced holding of wheat, occasioned by the lack of cars, brought to these holders a price which not only paid the extra interest on bills but gave to them a goodly surplus besides.

Haste surely makes waste in the marketing of farm products. Up-to-dateness as to the world situation and intelligent reckoning will work miracles in the way of bigger cash returns.

According to all accounts these necessary lessons have been well learned.

That from the forced necessity of 1916 our Saskatchewan farmers have been taught valuable lessons will be manifested this 1917 by a less hurried and wasteful marketing.—A. H. Funk.

Why Good Plowing Pays

The texture of the soil is nearly always more important than mere "richness." The maintenance and improvement of soil texture is more dependent upon plowing than upon any other operation of tillage. A fine mellow soil is more productive than a hard lumpy one of the same chemical composition. It affords greater feeding ground and more favorable environment for the plant roots, absorbs and retains more moisture, has better aeration and less variable extremes of temperature. It promotes nitrification and the development of available plant food by giving favorable conditions for the development of soil bacteria and for the disintegration and solution of the soil minerals. In all these ways, well-plowed soil renders plant food more available and affords a more congenial place in which the plants may grow.

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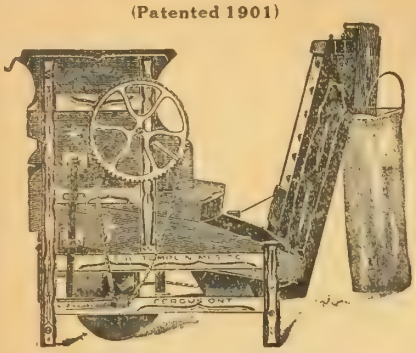

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Farmers' Co-operation

Some News About the Way Real Farmers Are Pulling Together

Farmers' Clubs Programmes

The farmers' clubs and united Farmers' locals should have a regular schedule of subjects to discuss at their meetings from now on. The program should cover economic and educational topics and arrangements be made for a few social evenings. How would this do for an educational program?

September—The need of more definite knowledge along co-operative business times.

October—Best methods of conducting the business of the local farmers' clubs.

November. — The advisability of adding 5% to all purchases by the local club, 1% being for storage, 2% for handling, 1% to cover incidental expenses and 1% for reserve.

December—How to improve our marketing ways for produce. Grading, packing and shipping.

January—How to get better trade conditions for the local.

February. — Discussing company's report to the locals and the relations between the central and the local.

March — Reports of delegates and shareholders at the general annual meeting.

April — Plans for summer business, marketing pointers and loyalty to the movement.—L.S.

Younger Men Wanted

Are some of our farm organization executives composed of too old men? It is possible that the time for initiative and enterprise passes away early in life and the age of caution and conservativism begins to hamper legitimate endeavors. What the farmers in their executives need most of all, is resolute execution of business enterprises. It is better to begin in a small stall and expand rather than to theorize over big things.

Non-Partisan League

One of the differences between the policies of the Alberta and the Saskatchewan Non-partisan Leagues is with regard to estimate placed on men as compared with policies. In Saskatchewan some of the leaders openly contend that the character of a man is of less importance than the policy he supports. They claim that since a good man may subscribe to a policy that is utterly bad, it matters little what a man is personally so long as he is thoroughly in accord with the league's political principles. Many, of course, take exception to this, but its effect is not indiscernible in some of the league's appointments. In Alberta, on the other hand, great store is set by the personal qualities of the league's leaders and standard bearers. As a result it claims the active support of some of the most outstanding individuals in the province. Mrs. McKinney, who is a sister of Ex-president Crummy, of Wesley College, Winnipeg, is president of the Alberta W.C.T.U. and a woman of marked platform and executive ability. J. W. Leedy is an ex-governor of Kansas, and well known as an orator. James Weir, a well known newspaper man, and now a farmer, is credited by at least one of the Calgary dailies as being one of the best informed men in Canada. W. M. Irvine, former secretary of the league, who polled 2,200 votes in the most aristocratic section of Calgary as an independent labor candidate, is also a man of great personal gifts, and there are many others of outstanding personality connected with the movement in the province.—*Grain Growers' Guide.*

Too Few Farmers in Parliament

How can you expect the farmers to get a square deal when, as now, you have seventy-eight lawyers and only twenty-eight farmers in the Federal Parliament? I do not charge deliberate wrong-doing to men of other callings in Parliament. The whole trouble is that they have the wrong viewpoint. When farmers are represented in Parliament in proportion to their numbers and the importance of their calling, you will get a square deal. Why is it the farmer has not his proper place in matters of legislation? It is because he is too modest; he is too ready to submit to the direction of others. As indicating what farmers can do, take the case of North Dakota. In that State last year the farmers got together, they prepared their own farmers' platform, and on that platform they elected their candidate for Governor, all the State officers but one, and ninety per cent. of the members of the State Legislature.

In the West we have laid down a farmers' platform; that platform has been adopted by the farm organizations of the three Prairie Provinces. In constituencies where farmers are in the majority we propose to ask candidates nominated in the usual way to accept that platform, and failing such acceptance we propose to nominate and elect our own.—R. Mackenzie.

A Big Gap

There is a great commercial gap between the consumer and the producer in Canada. We should appreciate co-operative work more than we do if we are to make headway.—Col. Fraser.

Farm Viewpoints Not Known

Farmers are over wrought. They have to work too long hours in order to make their farm operations pay, and it is this fact, that a man being tired is in no shape to express his opinions or to make his ideas prevail in print. Even when we do we cannot always get our letters printed. I know four letters that were sent to a

Toronto daily which were refused insertion. Don't they want the real farm viewpoints?—J.M.

A Sleeping Giant

The farmer has not yet learned the idea and the importance of his power to buy and sell his produce. Let us wake him up and see the giant stir his limbs.—J. J. Morrison.

HOME-MADE RUGS

Continued from page 39.

ive—can if you have any artistic talent be made to imitate an Oriental rug by drawing your pattern on the stretched foundation.

Scrolls should be veined to each point from a stem running through the centre. These stems and veins should be your darkest shades. Shading out to the lightest at the tips.

In my own case I had a very pretty scroll pattern cut from stiff paper and pinned on the canvas, two scrolls to the long sides leaving a nice border and the tips meeting forming a very pretty shaped centre. I hooked the scrolls first, veining with very dark brown and shading to very light brown, just tipping the points with pale yellow or lemon color. The borders were black; the centres a mottled grey made from a worn blanket with white warp and grey filling.

To give the plush effect of Oriental rugs—draw up your loops a little higher and with sharp scissors or pen knife, cut each loop and clip off any unevenness. For this you need all wool rags as the cotton shows and is not so velvety.

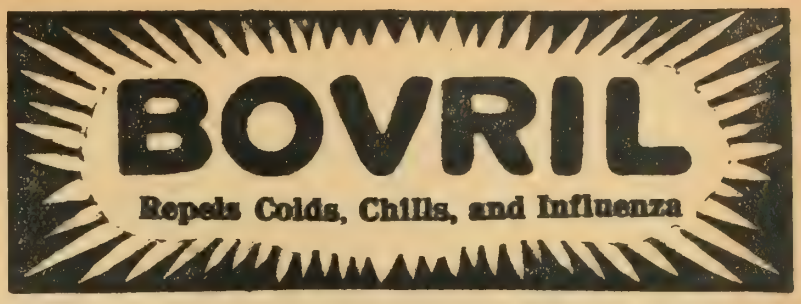
To save time prepare your rags before beginning your mat hooking, by dyeing, cutting in narrow strips—about one-eighth inch wide—according to the quality of your cloth—tying in bunches or rolling in balls, each shade separately. These can be kept in boxes, and much confusion avoided.

In hooking scrolls, follow the curves. In borders and centres—and wherever possible, hook by a thread of the canvas each loop near enough the last one to hide the foundation or about two threads each way.

Kitchen mats where hard wear is needed, may be made of coarse material and old cottons used and still with a little taste made very pretty. They are certainly very serviceable and are as easily cleaned as a bought carpet or rug, and add greatly to the comfort of a kitchen with a hardwood floor both for warmth, and rest for tired feet.

My kitchen mats are made, what we call *hit and miss* with a dark border. The hit and miss gets its name from the combination of all colors of which they are composed, a few inches of one color then another, with here and there a dash of bright to liven it up. In these mats the odd pieces, and left overs from better rugs can be utilized.

More artistic ones may be made by marking off the centres in squares—tracing with black—then hooking the squares alternately across, and up and down shading from dark to light so the blocks when finished will look like steps. This is very interesting work and by a little selection of colors is made very pretty and quite nice for a living room or bed room, where they will do service for years. — Mrs. Walter Simpson.



Weak From Birth

Harriston (Ont.) Child Saved by Dr. Cassell's Tablets.

MR. CORBY, HARRISTON P.O., ONT., writes:—"Just a few lines in praise of Dr. Cassell's Tablets. Our little girl was weak from birth, and though we tried doctor's medicine and other things she got no better. She just lay in her cot and cried, and neighbours all said we could not save her. Then I read about Dr. Cassell's Tablets. I said to my wife, 'while there's life there's hope'; we will try these Tablets. We did, and from the first box we could see a change in the child. She seemed to rest more comfortably, and slept well at night. We kept on giving Dr. Cassell's Tablets till she was 18 months old, and now at three years I don't think there can be a healthier child in the whole Dominion.

Little Miss Corby.

The doctors said she had stomach trouble, and that her chances were small, yet Dr. Cassell's Tablets cured her. They have been worth their weight in gold to us, for we were just giving up hope of saving our little daughter. I don't think there is any other medicine for children like Dr. Cassell's Tablets. I may say my wife has taken them for nerves, and they have built her up splendidly. Publish this letter if you like; it may help others as the Tablets helped us."

Bright, healthy, happy children, full of life and activity—every mother wants her babies to be like that. Are yours? If they are not, if they are weakly or fretful—we say it in all sincerity—the surest way you will ever find to build up strength and vitality in their little frames is a course of Dr. Cassell's Tablets.

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Investments and Insurance

For the Farmer

The Farmer's Investments

Not for many a day have the farmers been as prosperous as they are just now. In older Canada especially the crops have been of an unusually fine order, while not in the memory of the oldest has there been a time when everything that the farmer has to offer has brought such satisfactory prices. Merchants and money-lenders on all sides tell the story of the farmer's paying up his accounts and offering cash for everything that he purchases.

And no one begrudges that farmer his delight as he sees his ship coming in. He has been obliged to wait for his prosperity, meanwhile making a telling investment of capital and hard work. But with this prosperity comes corresponding dangers, not the least of which comes from the speculative gentry who toil not—and who fight not—but who fatten on the sweat and profits of the man who earns and saves. Already these parasites are out on their hunt for the farmer with a few dollars. The speculator who loaded up with suburban property situated ten miles from the nearest street line, or under the water of a frog pond with no outlet, or in mining property rich in everything but financial returns or in oil prospects that are as likely to give good results as roses are likely to bloom on the north pole is busily seeking the farmer to fleece him of his last dollar.

One rule is perfectly safe. The farmer should deal for himself. Financial plums do not go a-begging for some one to pluck them. The farmer may depend on it that the really good things are picked up long before they have time to reach him.

The average farmer will do well to follow the line of common sense by investing his savings in his farm—in drainage, in improving his stock, in purchasing machinery that will enable him to get more out of his land either in the way of better cultivation or in improved comfort for his stock. It is the farm that has made him prosperous. Why should he not help the farm to make him still more prosperous? The average farm has only begun to give returns. Better fertilization and better seed and better stock and better feed, together with more attention to marketing will add thirty fold at least to the returns now yielded. Now that the day has dawned when the farmer has the wolf well off the door mat he should hasten the day when the wolf will not only be driven back, but exterminated. This he will do by supporting the producing and marketing ends of his enterprise.—A.K.

B.C. Farm Settlement Board

As now constituted the Farm Settlement Board of British Columbia is composed of six members. These are Maxwell Smith, chairman, with headquarters in Victoria; Duncan Munro, of Terrace; J. A. Macdonald, of Nanaimo; Charles R. Ward, of Cranbrook; Shelbourne H. Nelems, of Burnaby, and F. R. E. de Hart, of Kelowna. The outside members of the Board are now in their respective fields looking over the territory and preparing for the prosecution of their work.

As yet the board is busying itself with the preliminaries, and it will be some time before the work under its charge will be actively pushed. Regarding loans to farmers, this will be part of the work of the board, which will carry on the system of farm loans inaugurated by the late administration under the Agricultural Credits Board.

Mr. de Hart is a large fruitgrower of Kelowna, and formerly a grain grower near Regina. He was born on a farm near Whitby, Ont.

QUESTIONS

A Young Man's Investments

F.B.C., Ontario.—I am a young man hired as foreman of a big farm at a fair wage. I have some outside income also and have been steadily saving for years. It is my policy to keep about half of my money in municipal debentures and mortgage debenture. The other half I invest in second mortgages on city property or short term loans to farmers buying stock. The short loans bring me 8 to 10 per cent., while the debentures 4 to 5 per cent The debentures I put away in a safe and await interest The others take more worry and attention. What about these Anglo-French war bonds?

Answer.—You are following a wise plan in counterbalancing your short term loans in the debentures, and your returns are as good as you can expect. Your course will keep you out of a great deal of trouble. The Anglo-French bonds yield 7 per cent. or over. They are listed in New York and a few find their way here. A good broker can handle this business for you, but it costs some exchange. They have two governments at their back and ought to be good. They are payable in 1920.—F.M.C.

INSURANCE

It Came to Him When He Needed It

Ezra Brown paid one of his rare visits to his lawyer the other morning. The insurance company had notified him that his period for making payments had expired and Ezra was anxious to see that matters were being settled correctly. Hence his visit to the lawyer.

A smile lurked about the lips of the lawyer as he looked the documents over. "Don't you remember," the lawyer queried, "the day when you handed this policy to your wife and said, 'We'll pay this thing from year to year all right. We'll do without some little things here and

there, if need be, and then when I'm fifty we'll have this coming in when I'm slowing down a bit'?"

"Indeed I do," replied the farmer. "And, really, glad I am to have this sum coming in just now. It puts us on easy street for a little money. Nearly all that we have made so far has gone into the farm. We are commencing to get results from our farm, but here is some ready money that will start working for us and we'll feel easier now that we have this sum behind us."

"Tell me," continued the lawyer, "if you have had to do without anything that you really needed to keep this sum paid up year by year?"

"I'm not sure that we have had to stint ourselves in any way to keep up our premiums," was the answer. "At first it meant doing without some things that our neighbors were getting. We bit our lips sometimes, but these very things our neighbors bought so readily did not always work to the advantage of their business or for the good of their families. At any rate, this money will help us now to secure things that will ease the bumps for us as we down the hill to the sunset."

This farmer had taken an endowment policy at the age of thirty, for twenty years. Of course, he encountered difficulties in the making of payments, but now that the period had ended he had his cash returned to him with interest equal to that of the savings bank, while for the period he had the assurance that in the event of his being taken off his wife and family would receive a sum that would provide them with a roof and food till the dawn of better days. Life insurance in a reputable company is no longer a gamble but a business proposition that yields definite cash returns as well as peace of mind.—Andrew Kyle.

Life Insurance

No one needs life insurance more than the farmer. Life insurance should be regarded as a necessity—one of the most positive and imperative necessities. If a man is rich he still needs life insurance. It will secure him from the financial contingencies that may threaten all his other possessions; but if he is poor, it is an absolute necessity—something that he dare not do without—the one thing alone that can protect his cherished ones from suffering that which he would not have the courage to see them endure.—R.T.P.

Safety First Life Insurance

It makes no difference how a life insurance premium is paid, whether once a year or once a week, provided the amount is adequate to the risk undertaken and is made up in conformity with a scientific formula. Fraternal and assessment life insurance could have been as safe as old line if its rates had been properly calculated, which means with due regard to the fact that as men grow older

Farmers and farm readers who have any problems of investments, money, stock companies, will have any inquiries about financial matters carefully answered for them by Richard Laborson. Favorable comment has followed our May exposure of the Condensery flotations. A farmer's money is earned at too great a cost to be thrown away in some promoter's wildcat schemes.

—EDITOR.

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A Reminder

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Young Men on the Farm Who Cannot Go to War

Canada Must Have Greater Agricultural Production.

Canada Needs Men Trained in the Best Agricultural Practices.

You will be of greater value to your country and to yourself if you acquire all available information regarding your business as a farmer.

You can obtain this information during the Fall and Winter months at the

Ontario Agricultural College
GUELPH

The College Term. The college opens September 21st and closes April 12th. This is convenient for most farm boys, as the hardest work of the summer is completed before the commencement of the term and students can return to their homes for the spring seeding.

Courses. The Two-Year Course is particularly designed for young men intending to be good practical farmers. It includes studies which are of practical value in all the work of the farm. The Four-Year Course for the degree of B.S.A. is a two-year continuation of the two-year course.

Expenses. In order to encourage young men to attend the college, the fees are fixed at the lowest possible figure. Board $4.00 per week—Tuition Fee $20.00 per year.

Public School Education is Sufficient for Admission.

College Opens September 21st

Write for a Calendar giving full particulars.

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President.

they die faster. But they were bent on furnishing "cheap" insurance. It is cheap to those who die early, because they have escaped the payment of their proper share of the actual cost; but it is "dear" to those who live into advanced life.

Some of the fraternal orders now realize the necessity of a reserve and are endeavoring to reform their plans. But they are in trouble with the holders of hundreds of millions of outstanding insurance of middle age and older who are financially unable to meet level premium rates calculated at their attained ages. If they want to escape the deluge of an ascending yearly cost, they must pay the new rates, or submit to the imposition of a heavy lien on their policies, to be deducted at death. So it has come about that every such society has two or three classes of members: the poor old victims of pure assessmentism; those who can change to the new system, and the new accessions who start right, mathematically. — W. E. Underwood.

Fire Insurance

Many fires of farm property have occurred during August and September, chiefly from lightning. One agent of a big insurance company was kept busy writing additional insurance on farms after a bad storm had burnt several barns in the county. It does not pay to run any risk of fire losses when insurance costs so little—D.F.Y.

Habits of Saving Contrasted

Methods of saving money, like other human activities are governed by custom, training and opportunity. Moreover, custom may and, in fact, often does become so weighty an influence that whole nations are influenced thereby. Thus the French are noted all over the world as buyers of bonds. The Frenchman's confidence in bonds is so great that very little money is kept in the French savings banks, and, more surprising still, almost none at all is spent for insurance. In fact, the life insurance in force in France averages less than $20 per capita, as compared to about $300 per capita in the United States.

ENGLISH BUY STOCKS

The English love stock. Rich or poor, they buy all forms from the worst to the best, and there can be little doubt that the often deprecated American tendency to place funds in utterly worthless promotion schemes is only a mild reflection of the English tendency to gamble in all sorts of speculative foreign and colonial shares.

Modern Germany, like the United States, has been largely engaged in internal development. Therefore, it is not strange that her method of investing savings shows less definiteness than is observed in either England or France. However, a glance at the records of the German savings banks for the years prior to the war reveals the fact that they are relatively large and leaves the impression that these institutions are very popular. In fact, one is inclined to wonder if the tendency toward leaving funds in these institutions for long periods is not developing. This is not to be regarded as differing essentially from the French system, for it really is nothing more than the substitution of institutional ownership for the personal ownership common in France, bonds being in both cases the investment securities dealt with. The

French system probably gives the individual owner a slightly higher rate of interest. The German system distributes the risk a little better.

AMERICANS BUY INSURANCE

Closely allied to this system is the American system of saving through the purchase of insurance, for, aside from the individual matter of protecting dependents, standard insurance is nothing in the world but a form or method of saving money. The American public do not save money like their European cousins. If this is intended to mean that Americans do not buy bonds for their personal accounts as the Frenchmen do, or that their investments in stocks are less than the investments of the English, or that they do not keep as much money in the savings banks as the Germans do, this is correct. But this only means that the American habit in investing his savings is different, for where the Frenchman who has a little money to invest will go to his banker for another bond, the American will either go to his insurance agent for a little more insurance or to his local banker for another small farm mortgage. The insurance companies of America are very familiar to almost everyone. They have dealt honestly with the public, and in return they have secured the confidence of the public, as the forty odd millions of policies now in force amply testify. Farm improvement has also provided a ready use for large sums of money, and the steady advance in farm values since shortly after the Civil War has led many to place their entire surplus in real estate and in real estate loans.

NOT CAREFUL SAVERS

This leads some people to assert that Americans do not save their money as carefully as the French, the English or the Germans. However, the fact that though the United States, as a nation, is less than one hundred and fifty years old and, though none of those who have come to this country brought much of anything with them, its wealth is now practically as great as that of Germany, France and England combined, leaves much to be explained by those who are pessimistic in regard to American ideas of handling money.

On the other hand, it is true, as often asserted, that Americans lose much in bad investments. It is also true that the time has come when more men should place their savings, or at least a large part of them, in bonds. But the average American, like men of all other nations, buys what he thinks he knows and understands. He thinks he knows a great deal about insurance and he knows that he is well informed in regard to real estate values—which means nothing more than that he is familiar with these forms of investments, and that neither he nor his neighbors have lost money in them. Moreover, he will continue to save his money and to invest it as he does now, till the bond houses get at him directly and personally through his local banker, for instance, and familiarize him with those forms of investment, about which he knows and cares nothing now.

Cattle Wealth of England

Official returns show a further small increase in the number of cattle in England and Wales; on the other hand sheep and pigs have decreased 740,000 and 250,000 respectively.

5% instead of 3%

If you saved $100 every six months for 10 years at 3%, you would receive $347.05 in interest. If you invested the same amount for the same time at 5% you would receive in interest $618.33. The gain at 5% would be $271.28, or 78% in excess of the 3% rate.

Why Lose the Difference

between 3% and 5% or sacrifice 78% of the profits you should derive from your capital. Standard Reliance 5% Mortgage Corporation Debentures are issued in amounts of $100 and upwards. The interest (5%) is payable half-yearly by the local bank in cash on the day it is due. The principal is repayable at a fixed period to suit your convenience. Absolutely safe. No worry or inconvenience.

Thousands of people have invested in these debentures without the loss of one dollar invested.

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It is easy, pleasant, profitable spare-time work—it does not require previous selling experience—we tell you how.

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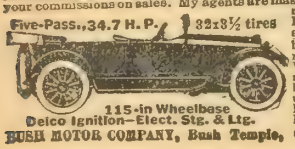
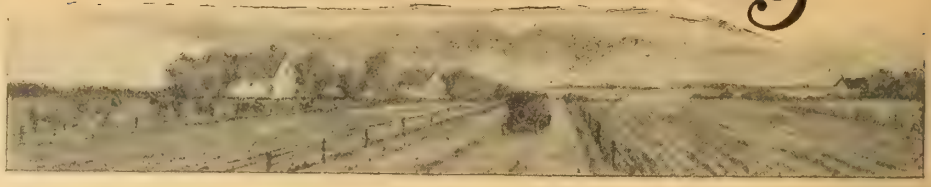


BUSH MOTOR COMPANY, Bush Temple,

Business of Farming



Selling Stock By Photographs

A greater business in purebred livestock selling could be done if breeders and farmers would make use of photographs of their animals in making sales to men in distant parts. The photo can be taken by the farmer himself, and even developed by him if he has the dark room and time, but if not, it costs a very small item to have the plates or films developed in town.

In a recent issue, System on the Farm, tells how big sales have been made through the means of photographs. One man sold three animals for $800 to an Iowa breeder by means of photos. Another used picture post card size and sold a calf for $200. Especially good is this means in the case of dairy cows. The expense of the buyer in coming to see the animal is thus cut out.

Plants Corn Thick

Geo. Brodie, of Newmarket, Ont., began cutting his silo corn on September 12th. His crop was one of the best seen in the County of York. The corn was sown in rows 28 inches apart and with a grain drill. The stalks were, therefore, quite close together. Mr. Brodie claims that his animals do better on it and eat it up cleaner than were the stalks bigger and consequently harder in texture. He argues that the loss of the cob is overbalanced by the extra nutriment in the stalk.

Storing Potatoes

"It is bad practice to store potatoes in large bins or piles," says Prof. William Stuart, of the U.S. Department of Agriculture. Not infrequently potatoes are piled to a depth of ten to fifteen feet, the pile being correspondingly large in the other two dimensions. When stored in this manner they are almost certain to go through a rather violent sweating or curing process, during the course of which the tubers in the central portion of the pile are frequently subjected to a dangerously high temperature.

This is especially true if the tubers are slightly immature, or were not dry and free from moist soil when gathered, or if stored when the outside temperature is high, making it difficult to lower the inside temperature of the house.

Overheating from all of these causes may be avoided by making some provision for ventilating the pile. This is most easily accomplished by inserting division walls at intervals throughout the pile.

The division walls may consist of two-by-four-inch uprights on the two-inch face of which are nailed seven-eighths-by-four-inch strips of any desired length, leaving a one-inch space between each strip. This gives a ventilated partition, which can be of any height and length desired.

By placing these in an upright position five to six feet apart as the bin or storage house is being filled, good ventilation will be secured and an easy avenue of escape for both heat and moisture provided. It is poor policy to invite heavy storage losses by failure to provide the proper conditions.

Where the crop is not large enough to justify building a storage cellar or storage house, or where the grower is not financially able to make these investments, potatoes can be carried over successfully in pits, provided these pits are carefully made.

The Noble Foundation

One of the most enterprising districts of Western Canada is that near Nobleton in South Alberta. Here there is a live bunch of farmers, led by C. S. Noble and others in making farming a scientific business proposition. The crops this year are good and threshing has begun early in September.

The Noble foundation this year has nearly 10,000 acres in crop on its various farms. The big organization is more of a success this year than ever, and this is due to the wonderful organization Mr. Noble has built up, and the loyal support given him by his whole force, office staff, foreman, workmen and all.

The Foundation this year has 3,582 acres of wheat on summer fallow, 3,660 acres of wheat on spring plowing, 1,570 acres oats on spring plowing, 500 acres rye on summer fallow, 235 acres flax on spring plowing, 150 acres corn, 40 acres potatoes, making a total of 9,777 acres under cultivation.

To give some idea of the enormous expense the Foundation is under, Mr. Noble quotes the following figures: Total expenses for one day, $1,200.

There are 250 horses employed. The cost of feeding one horse is 50 cents a day, making an expense of $125 a day for horse feed.

There are 150 men employed, with an actual cash outlay for food of 60 cents apiece per day, making a total of $90 a day. Mr. Noble says the total cost for food per man per day is at least $1, including the produce that is grown on the farms.

There were 40 binders running altogether, at an average cost of $200 each, making a total for binders of $8,000.

Pig Clubs in N.B.

Mr. Hetherington, of the N.B. Livestock Division, has arranged for pig clubs in Queens, Northumberland, Kings and Charlotte counties. A club consists of ten boys in a community, carefully selected, and each boy agrees to the terms outlined by the department. Each pig must be registered.

The Artesian Well

The benefits of an artesian well on the farm are incalculable. "I would give you $500 to have that running spout on my farm," said F. E. Ellis to Geo. Brodie, of Newmarket in a recent visit to the latter's farm. "I would not take that

money for it," returned Mr. Brodie. Besides the running spout at the barnyard, he has water in the house, a running stream in his dairy room and a big fish pond with 1,000 trout recently put in. He had the well drilled a few years ago and had to go down 185 feet. But the supply never fails.

Smaller Prairie Farms

The labor problem is acute. The larger farmers are suffering most. Many of these larger farms have been cut up and sold. But this may work out for the general good as they are passing into the hands of men who have their own help. The handling of this year's crop will not require as much labor as was needed for the crops of 1915 and 1916.—W. C. Sutherland, Saskatoon.

One Way to Beat Bugs

A farmer says the Ridgetown *Dominion*, claims to have found a cure for potato bugs by ten years experimenting in Colorado. His plan is to plant one or two flax seeds in each hill of potatoes. He says that the bugs will shun it every time, and that for ten years he has been thus successful in raising potatoes where others have failed.

Egg Prices Assured

The British Government has issued orders that for the time being, at least, no grain which can be used as food for human consumption is to be fed to horses, mules, swine, etc., except as rationed by the food commissioners and they further "recommend" that no domestic fowls be kept except those which can be fed on table scraps, garden waste, etc.

This means our allies must depend upon the United States and Canada for countless thousands of sick and wounded soldiers who positively must have eggs.

Last year Canada exported to England over fourteen million dozen eggs and imported seven million dozen eggs from the United States, besides this country exported millions of eggs direct to England and now we must supply the needs of France, Italy, Belgium and many neutral countries.

There is no reason for poultry raisers to feel blue over the present cost of poultry food, says Russel F. Palmer in the *American Poultry Journal*. Good Poultry, both for meat and for breeding use, will be higher priced next season and in seasons to come than ever before.

On the City Chap

Jim Jones was born in the city and while yet a young man went into the country to work on a farm. Did he ever tell you why he came back to the city to live? No? I don't blame him. Well, I'll tell you.

The second day he was on the farm he was called up before dawn and told to harness the mule to the sleigh. He was too tired to light a lantern, and in the dark he didn't notice that a cow was in the stable with the mule. The farmer, impatient at the long delay, shouted from the house:

"Jones, what are you doing out there?"

"I can't get the collar over the mule's head," Jones yelled back, "his ears are frozen."—*Exchange.*

A comfortable horse is a good worker

Keep a horse comfortable and he won't mind hard work, but will do his share cheerily and give little trouble.

A collar that rubs and chafes will soon bring irritating gall sores and consequent peevishness in the horse. Such constant irritation lowers vitality and lessens the beast's efficiency. You can't possibly get full service from a peevish horse.

Ventiplex Pads will effectually prevent gall sores. They protect horses' shoulders and keep them in shape for hard, steady work. They are comfortable, cool, easy-fitting, and are made from a sanitary material that can be washed when soiled.

Ask your dealer for Ventiplex Anti-Frost Weatherstrip to keep out the cold and save fuel.

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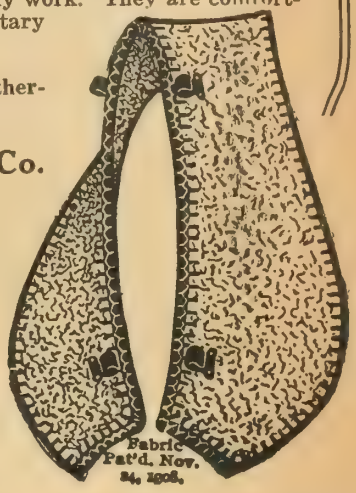

Buy a Western Farm

Much of the land close to old established Rail lines in Western Canada has been taken up but offers considerable advantages in the way of improvements and transportation facilities.

$15 to $25 per Acre—Instalment Plan

Will purchase these fertile lands adapted for grain growing, dairy or mixed farming. To the man with a little capital to invest who objects to the pioneer work of homesteading they should prove a real bargain.

For full particulars and any of our descriptive booklets apply to nearest Agent or write General Passenger Dept., Montreal, Que., Toronto, Ont., or Winnipeg, Man.

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Furnish home, barn or country estate with a steady, dependable supply of clear, pure water under high pressure. The Deming catalog of hand and power operated water supply equipment is free to those planning the installation of a water system. It outlines in detail systems for large and small houses; it proves the simplicity and permanence, the excellence and resulting economy of the Deming Hydro-Pneumatic method. Capacities, 180 to 130,000 gallons an hour.

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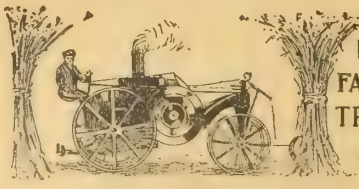
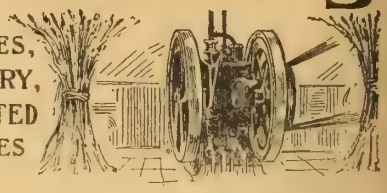


MOTORS, ENGINES, FARM MACHINERY, TROUBLE LOCATED AND REMEDIES SUGGESTED.



Is the Machine Adjusted Properly?

At no time in farm history was machinery so much in use as at the present moment. The scarcity of labor, the great demand for farm products, together with the good prices the farmer has been receiving for his offerings are some of the causes that have brought about the increased use of machinery. The use of machinery brings with it possibilities of large profits. It carries with it also the possibilities of severe losses if the machine is not used properly.

The first cause that contributes to loss is the improper setting up or installation of the machine. It should be remembered that a machine is designed and constructed to run under certain conditions. The manufacturer does all that he can to adapt the farm machine to certain farm conditions. There is a reasonable latitude allowed for the machine's being out of plumb or off the level. Similarly bearings are allowed a certain amount of play. In other words the manufacturer realizes that the farmer is not an expert mechanic and makes farm machinery with this knowledge constantly before him. At the same time the machine is so constructed that it will give the longest service to the farmer, who sees to it that the machine is kept in proper position and properly adjusted throughout its parts.

The trouble with the farmer is that he uses his machinery under conditions when haste is the order of the hour, as in the early hours when he must use his milking machine or in the busy hour in the harvest when the milking is done just before supper. A good many things occupy his attention when the milking is being done exclusive of attention to the milking machine. Both the gasoline engine that supplies the motive power and the machine are likely to be overlooked so long as they do their work. The result is disaster and financial loss at a time when time is doubly precious and a slipping away of the profits the machine is designed to earn. The remedy is to see to it that the machine is affixed to supports that are really stable. The engine should rest on a foundation that is quite solid. The beams and joists to which the shafting is attached should be as firm a foundation as workmanship can make them, while all guess work should be eliminated when it comes to placing the shafting and bearings. Once well installed the chances are in favor of the machine's running satisfactorily for some time. The farmer should insist that his machines of this character be set up by one of whom the company approves. The average agent may know very little more about the installation of machinery than the farmer himself. Indeed, the company can well afford to guarantee the farmer a first-class job in this regard, the guarantee to last for at least a year.

Further, the farmer will find it satisfactory to run over his shafting and engines every week or so to see that proper levels and adjustments are maintained throughout. Once a bearing commences to wear trouble is coming on a swift foot. Not only will the shafting suffer, but the whole machinery is sure to be jarred and injured. The same applies to the levels of the engine, for all bearings do better by being run without the strain that is inseparable from lack of proper levels or from improper adjustment. Five minutes spent once a week in attending to these important matters will add years to the usefulness of many a machine.

The matter of adjustment of bearings does not apply to engines and milking machines and separators alone, but to all farm machinery. Many a binder and mower has been discarded for running heavily and for wearing out rapidly, simply because the bearings have not been properly fitted nor has the shafting been in proper alignment, thus causing strain of one part upon another. A mower or a binder should run, when not actually cutting at the cost of very little energy. When they do not do so they are not in proper order and they should be studied till they run as freely as one could wish. The horse or engine power should be expended on doing the work for which the machine was bought. No farmer feeds horses or buys gasoline merely to run machinery.—A.B.

The Cost of Maintenance

Fabulous figures are frequently published relating to the amount of money invested in this country in automobiles, but it is only recently that people have begun to figure up what is expended annually on their maintenance, not counting the cost of gasoline or lubricating oil. In a recent article in *Automobile Topics* it was estimated that by mid-summer there would be close to four million cars on the road in this country alone, and that $3,080,000,000 will be spent during the year in sustaining them. At this rate the profits on accessories will soon surpass those accruing from the manufacture of the cars themselves.

Attention to Brakes

Few things are more prolific of accidents than poorly operated brakes, but like so many other things it is a case of out of sight, out of mind, and no thought is given to the brakes of a car until something happens, regardless of any indications of defects or poor adjustment that may have gone before. That positive action is desirable to control such conditions is indicated by remarks made by a member at a recent meeting of the Society of Automobile Engineers. He said: "If I were a Police Commissioner I should like to enforce one law, and that is this: An inspector should be able to go on any car, provided the road is dry, and, say, of asphalt or good macadam, cement or brick,

and make a brake test going, say, 20 m.p.h., and within certain limits, and if the car does not stop, he should have as much right to take the driver into the police station as for breaking the speed limit. If that were done there would be fewer accidents. I think we should advocate it as leading to a solution of some of the automobile accidents. The headway between automobiles is much less than it used to be, and people are so accustomed to them that they have become more careless. I think we ought to help the police authorities in their problem."

A Two Month's Course

Manitoba Agricultural College began the first long course in tractioneering last winter. The attendance proved that many of the farmers were feeling the need of this more extensive mechanical training even to the extent of being willing to spend two months in the winter to that end. Seventy-six men enrolled for the course last year and nearly fifty more would have come had they but known in time or had there been sufficient accommodation.—L.J.S.

In Case of Emergency

A lap robe, a gunny sack, or even some old newspapers will frequently be enough to get a car out of deep sand or a mudhole if placed in front of the rear wheels. A big armful of straw or hay also will turn the trick. Anything, in fact, that will keep the wheels from spinning will suffice. Many motorists carry a few old sacks for this purpose, and they can testify to the fact that they are worth many times their cost as emergency equipment.

Some Motor Don'ts

Don't race your engine. Don't open your carburetor all at once when starting out. It is hard on gears. Don't pull your car hard with the spark advanced. Don't change gears without taking out your clutch. Don't use your brakes on a slippery road. Use low gear and your car will hold the road better. Don't use too much oil. Don't monkey with your carburetor. Let it alone. If it needs to be looked after, see an expert. Don't run on a flat tire. Follow the maker's instructions and you will get best results. Don't run races and land in the ditch and get killed. Leave that part to the war. Don't use well water in your radiator; use soft water. Don't try to overhaul your motor yourself; let somebody do it that knows how to fit up bearings. It is no easy job. Have your valves looked after twice a year. It will pay you, as you will have more power and less gas. Put new rings on the pistons once a year, for they wear off and you lose compression, meaning loss of power.

Why Milking Machines Fail

District Representative Finn, of Middlesex, Ont., after an inspection of part of his county says: "There are no milking machines in the north part of London township, and a number of the farmers are interested. They asked the President of the Granton Farmers' Club to look up the matter and see if machines are being used successfully, and which makes were giving best satisfaction. I made arrangements with him to take him on a tour of inspection. We visited a number of dairy farms in Middlesex and West Oxford. We found that all the different makes were giving satisfaction in different

Roof
Barns with Paroid

THE choice for roofing narrows down to wooden shingles, metal, and Paroid. The fire risk with wood is too great, and frequent repairs are necessary to insure even reasonably long life. It costs less to lay Paroid than either metal or wood, affords full protection from the weather, checks a fire from falling sparks and embers, and requires no repairs. Roof with

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Paroid
ROOFING

Three permanent colors—Grey, Red and Green. Every roll carries a complete kit inside and our unconditional guarantee. Paroid has given 19 years' service. Go to a Paroid dealer and get real satisfaction.

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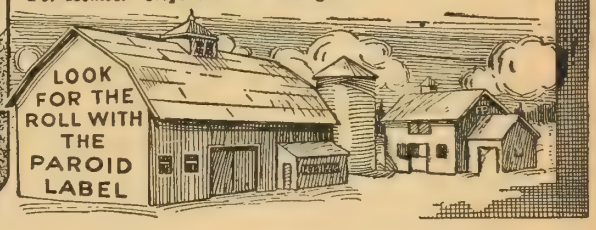
The largest manufacturers of Roofings, Wall Boards and Roofing Felts in Canada.
For Homes: Neponset Twin Shingles. 122



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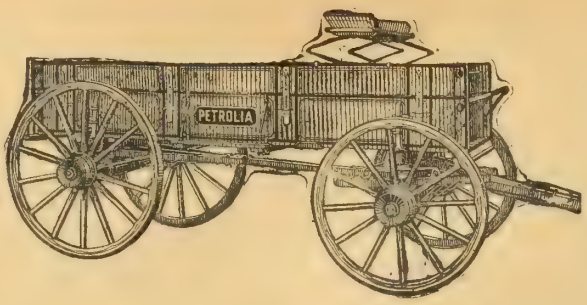
Red Deer and Small Game

ARE QUITE PLENTIFUL

Particulars from Canadian Pacific Ticket Agents or W. B. HOWARD, District Passenger Agent, Toronto



Petrolia Wagons for Sale

WHEN a man buys a farm wagon, he expects service from it. He will get service if he buys a **Petrolia** wagon. Take the line all through, **Petrolia** wagons can be depended upon to give a full dollar's worth of service for every dollar they cost.

The construction of the wagon is responsible for the splendid **Petrolia** reputation. First, the good material—air dried lumber, tough, strong steel and iron, and high grade paint. Then, the design, right for Eastern hauling conditions. Last, the good Canadian workmanship that builds the material according to the design, turning out a well finished product for the use of Eastern farmers. There are many operations in the making of a wagon which the buyer seldom hears or knows—the soaking of the wheels in linseed oil, the special seasoning given to hubs, the setting of tires so they will stay in place and without charring or injuring the felloe—these and others are regular Petrolia features that make the wagon a profitable one to buy.

Have you seen our rubber bumper skeins, or our block reach, short turn gear? Take a look at this wagon the next time you get a chance, or write to us at the nearest branch house for full details. The **Petrolia** is a wagon worth buying.

International Harvester Company of Canada, Limited

BRANCH HOUSES

WEST—Brandon, Man., Calgary, Alta., Edmonton, Alta., Estevan, Sask., Lethbridge, Alta., N. Battleford, Sask., Regina, Sask., Saskatoon, Sask., Winnipeg, Man., Yorkton, Sask.

EAST—Hamilton, Ont., London, Ont., Montreal, Que., Ottawa, Ont., Quebec, Que., St. John, N. B.

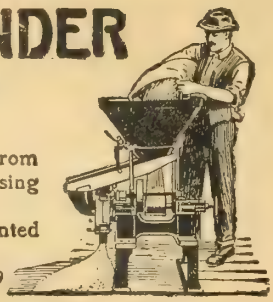
A Toronto Pumping Engine

Ensures an Unfailing Water Supply

The man who has one of these wonderful little 1¾ H.P. TORONTO Engines doesn't have to waste any time or do any worrying about his water supply. Simple, sturdy, always on the job, it's ready to start with a turn and pump away as long as you like without any fussing or bother. Connect it with the TORONTO Pump best suited to your conditions, with a TORONTO Pressure or Overhead Tank and Water Bowls, and you have an ideal water system. Write for Booklet and full information. 13

A TORONTO GRINDER

on your floor will save you time spent in teaming grists



ensure perfect digestion and more feeding value from your grain—and prevent live weed seeds from passing through into the manure.

Low-down construction, weight, strength, patented feed and plate control and relief springs ensure fast, even grinding and long wear. 19

Ontario Wind Engine and Pump Co. Limited

Dept. "M"

TORONTO and MONTREAL.

places, also that many had been taken out, and some were not being operated at the present time. The chief difficulty seemed to be poor operators. Wherever we found the operator giving it a good trial, the machine was doing very fair work.

Tank in Rear Best

There is little doubt that the rear end of an automobile is the best location for the gasoline tank. The best proof of this fact is that almost every high-grade car carries its tank in this position.

The tank can have a greater capacity than in any other position.

The supply of gasoline is removed as far as possible from the occupants, they do not have to be disturbed when the supply has to be replenished.

The weight is distributed more evenly.

Use Goode Motor Oil

The man who buys his first tractor, automobile or gas engine should make the lubrication of his motor a subject of special study. The ravages of friction will quickly destroy unless all moving parts are protected by a clinging film or cushion of good oil. He must not be satisfied with just oil, but should use the utmost care in selecting his lubricants. A temperature of more than twelve hundred degrees is often developed in the cylinders and unless the motor oil be uniform and of the highest grade so as to function properly under extreme heat, dry cylinders will result, which means that they will become scored and worn. Besides wearing out the engine, this causes two other serious conditions, viz., loss of power and waste of fuel.

Carburetor Leaks

R.M.D., Ontario.—Kindly give me some information about the carburetor on my 1916 Ford car After shutting off the engine and allowing the car to stand thirty or forty minutes, the carburetor will begin to leak. I had a new float and needle valve put in. That stopped it for a while, but it has started to leak again. Do you think it would be advisable to buy a new carburetor, or can this one be fixed?

Answer.—A very small amount of lint in the gasoline you are using could cause the trouble. Be sure that the carburetor, gasoline tank and gasoline pipe are clean. Drain the sediment bulb under the gasoline tank. If your new cork float was not properly shellacked it may have become soaked with gasoline. A new float should have two coats of shellac, thoroughly dried, before being used. It is doubtful if there is anything wrong with your carburetor that could not be easily fixed.

Rings Leak

L.B.C., Manitoba.—How can I tell when the piston rings are leaking? My car is losing compression somewhere

Answer.—You can tell whether your rings leak or not by removing the breather pipe from the crank case and listening while someone cranks the motor over, placing your ear close to the opening. If the rings leak seriously you can hear the compression blow through. To test for leaky exhaust valves, remove the exhaust manifold, place the ear near the exhaust port and have someone crank the motor, making sure that the spark is off so that the motor cannot fire. The intake valves may be tested in the same manner.

Estimating Lumber

The following data may be of assistance to you in estimating quantities of lumber required for new buildings. The following table gives the amount that has to be added to the area to be covered. For instance, with flooring, find the area of the floor in square feet and add to—

3" flooring, one-third to allow for matching.
4" flooring, one-fourth to allow for matching.
6" flooring, one-sixth to allow for matching.
8" shiplap, one-fifth to allow for matching.
10" shiplap, one-fifth to allow for matching.
4" bevel siding, one-third to allow for matching.
6" bevel siding, one-fourth to allow for matching.

Example: You have 1,000 square feet of floor space to be covered with 1 in. x 4 in. flooring. From the above table you will see that one-fourth must be added. Therefore

$$1000 + \frac{1000}{4} = 1250 \text{ square feet of flooring.}$$

To determine the number of feet of board measure. A board foot is a piece of lumber 12 in. long, 12 in. wide and 1 in. thick. So that a block 12 in. square on the end and 12 in. long would contain 12 board feet of lumber.

A simple rule for finding the number of board feet in a piece of timber is to multiply the end dimensions together, divide the product by 12 and multiply the answer by the length of the board in feet. Thus a 2 x 12 inch joist, 16 feet long, would contain

$$\frac{2 \times 12}{12} \times 16 = 32 \text{ board feet.}$$

Shingles when laid 4½ in. to the weather will require 9 to the square foot, and 8 to the square foot when laid 5 in. to the weather.

Studding is usually set 16 in. centres, and in estimating one should figure the studs will be 12 in. apart. This will allow enough for the doors and windows. Then the number of feet of the outside wall will give the number of pieces of studding. Plates and other partitions must be figured separately.

Laths four feet long and 1½ in. wide are usually estimated 16 to the square yard. To find the number of square yards on a wall, multiply the length of the room by the height and divide by nine. The answer will be square yards.

ESTIMATING NAILS

Estimating nails—	Pounds	Nails
1000 lathes require	7 (3d)	1⅝"
1000 shingles require	4 (4d)	1⅜"
1000′ bevelled siding	18 (6d)	2"
1000′ sheeting	20 (8d)	2½"
1000′ flooring	35 (10d)	3"
1000′ studding	10 (20d)	3⅞"

These figures are for wire nails, if cut nails are used add one-third of the quantity figured. These estimates will vary with workmen, but even an approximate quantity is of value.—J. McG. S.

First Internal Combustion Engine

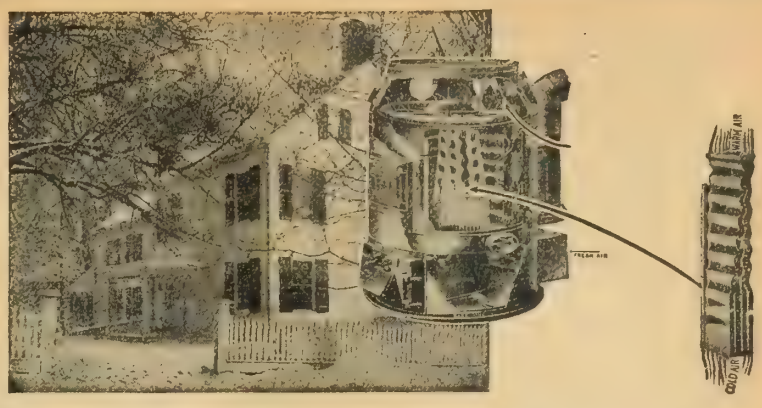
The first internal-combustion engine was run by gunpowder. It is the same theory which obtains in the operation of the present-day engine.

The Bride's Butter

"Grocery butter is so unsatisfactory, dear," said Mrs. Youngbride, "I decided to-day we would make our own."

"Oh, did you?" asked her husband.

"Yes, I bought a churn and ordered buttermilk to be left regularly. Won't it be nice to have really fresh butter?"—Boston *Transcript.*



The High Cost of Coal Kept Down

The Kelsey Warm Air Generator Gives Health Heat

Investigate the "Kelsey"—it is different—not only does it keep down coal consumption but it keeps doctors' bills down, too, both mighty important savings in households to-day.

The "Kelsey" has stood the test for 25 years, and it is the triumphant heating system to-day. It embodies the correct principle for heating and ventilating a house—it heats and ventilates at the same time—heats all rooms alike. By capping two of the sections you can heat distant rooms which could not possibly be heated with ordinary furnaces.

The Healthful advantages and saving from using a "Kelsey" are told in our booklet—"Summer Comforts in Winter Weather." Send for a copy.

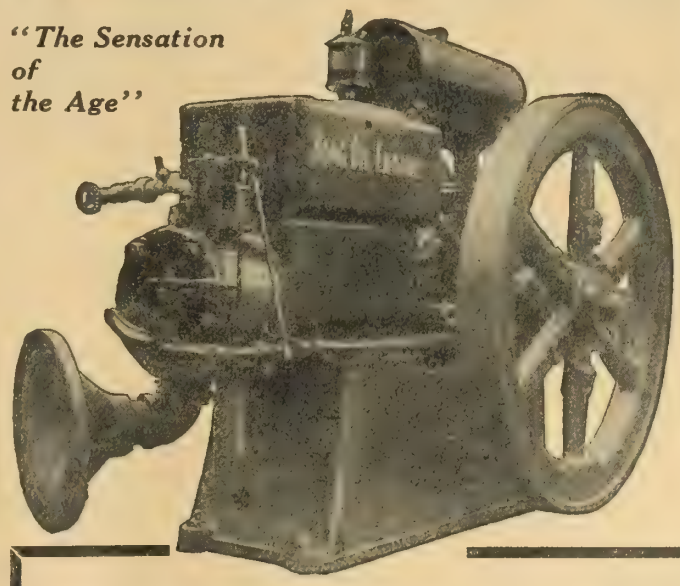
The Canada Foundries & Forgings, Limited

James Smart Mfg. Co. Branch

BROCKVILLE, ONT. WINNIPEG, MAN.

A REAL OIL ENGINE

"The Sensation of the Age"



No Gasoline—Not Even to Start

The Hoag Engine runs on kerosene, distillate, fuel oil or crude oil.

No Gasoline.
No Carburetors.
No Batteries.
No Spark Plugs.
No Magnets.
No Wires.
No Hot Tube.

Every other type of engine is hopelessly behind.

Saves 60 per cent of the Cost for Fuel and 90 per cent of the Trouble

Competent authorities estimate that 90 per cent. of all engine trouble comes from electric ignition and faulty carburetion. No carburetors or electric devices whatever are used on the Hoag Oil Engine. Hence 90 per cent. of the usual engine trouble is eliminated.

Doing absolutely reliable work on the very cheapest of liquid fuels the Hoag Oil Engine demonstrates daily that it costs 60 per cent. less to operate than a similar engine burning gasoline.

Give us an idea of the size engine you are interested in, and we will mail you circulars giving full description and prices. Write to-day.

Henry P. Hoag & Co.

86 Dalhousie Street - - Brantford, Canada

This Stump Puller Sent FREE

Write! Don't endure stumps any longer. Get them out with a

Kirstin One-Man Stump Puller

One man alone pulls all kinds of stumps quick and easy. Get the book which tells how, also ask for very special offer. Don't Miss This.

Send for FREE BOOK

Think of it! To prove the wonderful, amazing work of the Kirstin One-Man Puller, we ship it anywhere **without one cent in advance,** on thirty days' free trial. No obligation to pay after trial. If pleased take a half year to pay or return at our expense and keep your money. Write for this

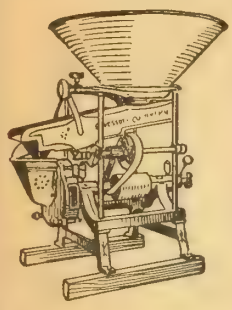
No Money in Advance

offer. Get a Puller and clear your land—FREE. The Kirstin One-Man Pullers pull stumps easiest and quickest. No horses required. All-steel construction—unbreakable. Guaranteed 3 years, flaw or no flaw.

Prices very low. All types and sizes.

A. J. KIRSTIN CANADIAN COMPANY

(71) 551 Dennis Street Sault Ste. Marie, Ontario



Grinds Better --- Lasts Longer

The "Vessot" Grinder does better work, and more of it, and gives longer service because of "S.V." Grinding Plates. These are moulded and cast by a special improved process which gives them more strength and greater wearing qualities.

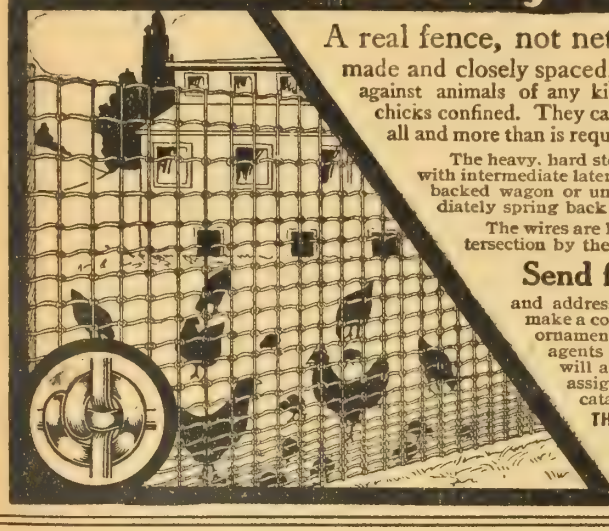
Send for free booklet!

S. VESSOT & CO. Joliette, Quebec

Sole Manufacturers

Sold by International Harvester Co. of Canada, Limited. Branches: Calgary, Edmonton, Lethbridge, Estevan, North Battleford, Regina, Saskatoon, Yorkton, Brandon, Winnipeg, London, Hamilton, Ottawa, Montreal, Quebec, St. John.

Peerless Poultry Fencing



A real fence, not netting. Strongly made and closely spaced, a complete barrier against animals of any kind. Keeps the small chicks confined. They can't get through. Does all and more than is required of a poultry fence.

The heavy, hard steel top and bottom wires with intermediate laterals will hold a carelessly backed wagon or unruly animal and immediately spring back into shape.

The wires are held together at each intersection by the Peerless Lock.

Send for Catalogue

and address of nearest agent. We make a complete line of farm and ornamental fencing. We now have agents nearly everywhere, but will appoint others in all unassigned territory. Write for catalogue today.

THE BANWELL-HOXIE WIRE FENCE CO., Ltd.,
WINNIPEG, MAN. HAMILTON, ONT.

Boys—

Get an early start. You do not want to be handicapped later on, do you?

We have a plan by which you may gain real live salesmanship experience—come in contact with prominent men—and earn for yourself a nice income—something worth while—at the same time.

Boys all over the country are earning lots of money and are acquiring that business experience which comes only by contact with men. A card will bring full particulars to any boy or his parents.

Agency Division

THE MACLEAN PUBLISHING COMPANY LIMITED
143 UNIVERSITY AVENUE, TORONTO

Five Thousand New Silos in Iowa

Iowa farmers are building 5,000 new silos this summer, according to the authorities at the Iowa State College, who have made a close census of the state. It is estimated that the average Iowa silo holds about 100 tons. This means that 500,000 tons of silage will be conserved in the new silos, without which the vast amount of feed would be lost.

The Iowa State College states that the 5,000 filled silos would carry 200,000 beef cattle through a 100-day feeding period, or would feed 100,000 dairy cattle through the cold months. In addition to the new silos, it is said that Iowa has at least 23,000 others built in preceding years.

A Plow Makeshift

H. Robinson, a farmer near here has a tractor 8-16. He has no self-steering arrangement on it, but otherwise it is quite complete. Instead of using a specially made tractor plow, he rigged up one of his own by joining two twin gang ploughs together. He took the right wheel off the left-hand plough and clamped the axle over the beam of the other plough, making them solid; a large stone was placed in the handle of the rear plough to hold it down and the four furrows were ploughed very satisfactorily. The land was sod and reasonably heavy, and the engine seemed to handle it quite easily, showing that an 8-16 can handle four furrows satisfactorily. Mr. Robinson told me that it required only one gallon of kerosene to cultivate an acre ready for drilling. He is keeping a record of the amount of kerosene required to plough an acre.—J.W.S.

Stumping Powder

Our demonstration *re* the use of farm stumping powder was a success. Several stumps, stones and trees on the orchard site were blown out so clean that it was a marvel to those present. We have purchased a case of the powder, as it will be very useful in cleaning out the fields. Half a stick covered with wet clay will break any of those big boulders up into pieces which can be easily handled.—J. E. McR.

He Was a "Separator" Himself

"That summer boarder of ours spends a good deal of time in the dairy. Seems to take a great interest in the separator."

"Well, he's in that line himself."

"Huh?"

"He's a divorce lawyer."—*Exchange*

National Safety

Let us never forget that the cultivation of the earth is the most important labor of man. Unstable is the future of a country which has lost its taste for agriculture. If there is one lesson of history that is unmistakable, it is that national strength lies very near the soil.—Daniel Webster.

A Toast

"Here's to a fountain that never goes dry,
A fountain from whence comes the milk supply;
Drink from it often and never forget,
That milk is the 'liquid without a regret'."

A Pure Moist Air Heating Plan

A GOOD heating system should do more than supply ample warmth. It should also give you good ventilation. It should furnish cosy comfort that feels like the balmy air of June.

You get these two advantages—cheerful warmth and fine ventilation—combined in the "Hecla." You also get them at low cost and low expense for coal.

An Ever-Fresh Current—A Pure Humid Atmosphere

Go to a "Hecla"-Heated home. There are hundreds of them. You will find them in every community.

Note the fine, clean, refreshing atmosphere.

It is pure air, constantly renewed. Nature demands a humid atmosphere. The "Hecla" supplies the air with the proper balance of moisture that nature demands.

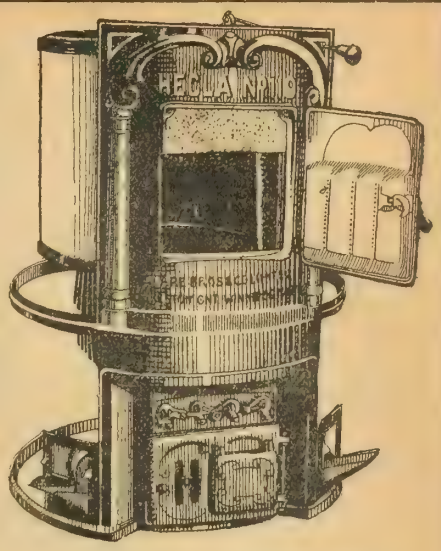
The warmth, too, is ample. It is cosy. In no room will you find that scorched, stifling atmosphere that many heating systems produce.

The "Hecla" warm-air furnace is as near perfection as a heating system could be

"Hecla" Warmth is Cosy, CLEAN, Free from Gas

It is true that from time to time some owners of warm-air furnaces complain of dust and gas escaping.

But they are not "Hecla" owners. Such a nuisance is impossible with the "Hecla." The smoke-chamber is sealed tight with our patented fuse joint. No matter how long it is exposed to heat we guarantee that it will not spread. It is inseparable—leak-proof for all time.



Free Booklets Containing Advice on Heating

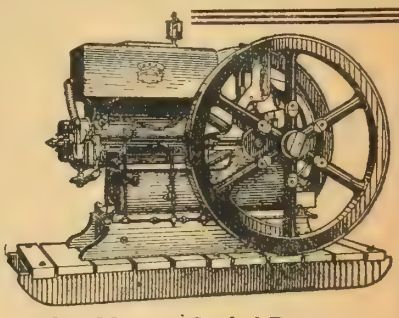
Before you make your choice of a heating system see a "Hecla." Read about its many advantages in "Comfort and Health." From this booklet you will learn how the "Hecla" provides cosy warmth, fine ventilation, and moisture-mellowed atmosphere; how "Hecla" engineers have made provision against leaks of gas or fine ash-dust; how the steel-ribbed fire-pot (also patented), gives quick, economical heat in spring and fall, and saves one ton of coal in seven.

Ask also for the pamphlet, "A Pure Air Heating Plan." It is free for the asking. Packed with sound advice on heating. Only a limited edition—write for your copy without delay.

CLARE BROS. & CO., Limited
PRESTON, ONT.
WINNIPEG VANCOUVER

HECLA Mellow Air Furnace

The "Brantford" is the Ideal All-Purpose Farm Engine



Our Hopper Cooled Design

In the first place you do not need to be a mechanic to operate a Brantford Farm Engine. Anyone can run it and get every ounce of power out of it.

Then you are not tied-up to gasoline, nor affected by its price if you are using a "Brantford"; for the Brantford Farm Engine runs just as smoothly on coal oil or naphtha as on gasoline. In fact it was especially designed for use with these cheaper oils as fuel.

Whichever fuel you use, the "Brantford" will give you a maximum of power, and a minimum of trouble and expense. It runs smoothly day in and day out, doing its work quietly and effectively—it is indeed the ideal general purpose farm engine.

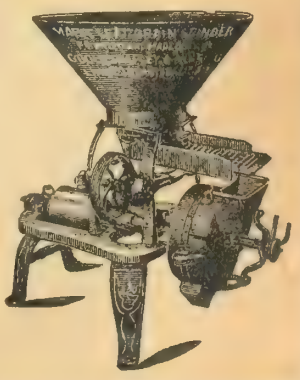
Every "Brantford" Engine is fully guaranteed. Catalogue free if you write for it. Ask us too, about "Brantford" Portable and Traction Engines.

The "Brantford" Windmill

is made according to the "Brantford" high-standard of excellence and lives up to the "Brantford" reputation for absolute reliability and satisfactory service.

"Brantford" Feed Grinders

are genuine money-savers. They save time and save feed and give your stock the full value from their feed. The "Brantford" Grinder is speedy, sure and clean working.



Our Catalogue describes a number of machines that will help you solve your labor and farming problems. We have one for you. Write for it.

Goold, Shapley & Muir Co., Ltd.

Brantford Winnipeg Regina Calgary

CANADA

These Men Will Help You Decide

Are you liable to be selected for service under the Military Service Act?

The answer to this question is being made readily available for you. Remember that the first class to be called includes only men between the ages of 20 and 34, both inclusive, who are unmarried or widowers without children, those married after July 6, 1917, being deemed single for the purposes of the Act.

Medical Boards are now being established throughout Canada. These Boards will examine, free of charge and obligation, all men who wish to be examined as to their physical fitness for military service. They will tell you in a very short time whether your physical condition absolves you from the call or makes you liable for selection.

It is important that you obtain this information as soon as possible. A certificate of unfitness from a Medical Board will secure for you freedom from responsibility under the Military Service Act from any Exemption Tribunal. A certificate of fitness will not preclude an appeal for exemption on any ground.

In order that you may be able to plan your future with certainty, visit a Medical Board as soon as possible and find out if you are liable to be selected. Your family and your employer are interested as well as yourself.

Issued by The Military Service Council.

Why Ohio Farmers Store Wheat

A writer in the New York *Sun* argues against confiscation by food controllers, especially in the case of farmers. Wheat, says the writer, is the first cash harvest product of any importance in the Middle West. Wherever farmers are storing wheat it is with the certain knowledge that there is not enough profit in $2.05 wheat, which is the price prevailing at primary markets for No. 2 hard, which is the chief wheat crop here, to warrant selling; that the risk of marketing now, with wages rising, is not justified by good business; that the difference between the price of wheat and that of corn is so abnormal that it may be necessary to use wheat instead of corn for stock. Corn is usually half the price of wheat. It is four cents higher now.

The early frosts cooked the corn and the dry weather shortened the grain on the cob. It is almost certain that there will be a low wheat yield next year, and farmers are being urged to save seed for 1918 sowing.

Last fall farmers paid from 7 to 10 cents a shock for cutting corn. They are charged 16 to 20 cents for the same work this fall. Last fall silo helpers got from 20 to 25 cents an hour. This fall they are getting from 40 to 60 cents an hour, the difference depending on the relative supply or scarcity of labor in any given community.

The early frost has ruined the fodder, so that with this and the high cost of harvesting the chances are that the corn will be jerked, the fodder left standing. If left standing it will decrease the wheat acreage. If cut, it will cost twice as much as last year to clean off the ground for wheat. The inevitable result of the falling off in value of fodder will be the increased price of hay.

The withholding of wheat from the market is not from a desire to cripple the Government. It is simply an economic necessity, and until farmers see their way clear to loose wheat they will hold it. It is an economic condition comparable to that which has existed in railway legislation the last quarter of a century. The railroads were so hedged about with legislation that they could not increase their production; that is, increase mileage and rolling stock. When the war came our nation found itself confronted with the fruits of its own misapplied energy, for the railways were not in shape to handle adequately and economically the vast traffic that war conditions imposed. They had recourse to the Interstate Commerce Commission. It was found necessary in a time of national peril to cease hampering transportation and let business acumen have the fullest sway. It will be found the same with agriculture, and the sooner this is realized the sooner production will adjust itself to needs. Farmers are not organized to fix prices or to resist price fixing.

Not Fixed After All

The argument was advanced last week that a fixed price for wheat would not be a success unless it continued to represent the market or unless the Government assumed the speculative responsibility of maintaining it. Now we find Mr. Hoover explaining "that the maintenance of the fair price is not guaranteed over the whole of the 1917 harvest year; it is solely dependent upon the export demand." And so the fixed price is not a fixed price.—*The Financial Post.*

YOU NEED THIS M-re GRAIN GRINDER

This Grain Grinder
Is as much a necessity on your farm as a plow or harrow.

You Have the Grain
You need the grain grinder to grind it with just how and when you want it.

Let us place it on your farm

Perhaps more than once you've wished you could have a practical grain grinder on your farm. You can now realize your wish. Let us send you on trial a

M-re GRAIN GRINDER

THE GRINDER WITH THE EMERY WHEELS

Use it, test it for a week, grind your grain with it for home use or for your live stock or crack your corn for your poultry and you will realize what a great necessity it proves itself, what a practical investment its purchase means to you, and if you do not find it as good as we say it is—return it—that's all. No "ifs," no "ands," simply ship it back. Hundreds of M-re Grain Grinders have been placed on trial with farmers—not one has ever been returned—this means hundreds of satisfied users everywhere in Canada.

The M-re GRAIN GRINDER

Is the only Grain Grinder using emery wheels instead of steel plates.
Steel plates cut and slice the grain; emery wheels grind and crush the grain just like the old fashioned mill stones thoroughly and completely and produce a high grade flour or chop. The water test will give you positive proof of this.
Emery wheels can be dressed in a few moments and be as good as new; steel plates must be replaced when dulled.
The M-re is the best and most economical grain grinder on the market, the one you will appreciate once you try it. The M-re is not a toy—it's built for service. Only the best materials enter into its construction—it is solid, compact, portable, works without vibration and economically. And remember it must be right or it costs you nothing.
Send for samples of chop made with the M-re. Made in 5 sizes—Capacity from 1 to 8 bushels per horsepower per hour

THE PLESSISVILLE FOUNDRY, PLESSISVILLE, QUE.
The Grain Growers' Grain Co.—Distributors for the Western Provinces

An Opportunity to Spread Yourself

The present demand for our Magazines makes it necessary for us to employ more representatives. To young men and women possessing energy and ambition—students—clerks—teachers—young people just starting in business—we offer real opportunities. The work is permanent, pleasant and profitable. We furnish everything necessary for your success. We will co-operate with you, teaching you how to become successful. If you are interested and have confidence in your own ability to qualify and fill an important position in your neighborhood, we will tell you all about it if you will write immediately

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THE MACLEAN PUBLISHING COMPANY, LIMITED
143-153 University Avenue, TORONTO, ONT.

CAM

ENGLAND'S SUPREME UTILITY POULTRY SPECIALISTS

Breeder of the World's Greatest Layers

in White Wyandottes, White Leghorns, and Buff Orpingtons, which again lead the way in the current contest at Harper Adams College, Newport, Salop, England. All birds are bred for hardiness and stamina, and have always proved themselves, in all parts of the World, to be the World's best Winter Layers.
Breeding pens for sale from my 300 and 311 egg strains, also 1917 hatched cockerels, early hatched. A splendid opportunity to obtain great bargains.
Birds exported to all parts of the World.
Write for particulars and terms, and other enquiries solicited.

ED. CAM
The GLEN POULTRY FARM, HOGHTON
(Near Preston, England)

Wonderful Egg Producer

Any poultry raiser can easily double his profits by doubling the egg production of his hens. A scientific tonic has been discovered that revitalizes the flock and makes hens work all the time. The tonic is called "More Eggs." Give your hens a few cents' worth of "More Eggs" and you will be amazed and delighted with results. A dollar's worth of "More Eggs" will double this year's production of eggs, so if you wish to try this great profit-maker, write E. J. Reefer, poultry expert, 7267 Reefer Bldg., Kansas City, Mo., who will send you a season's supply of "More Eggs" Tonic for $1.00 (prepaid). So confident is Mr. Reefer of the results that a million dollar bank guarantees if you are not absolutely satisfied your dollar will be returned on request, and the "More Eggs" costs you nothing. Send a dollar to-day, or ask Mr. Reefer for his free poultry book that tells the experience of a man who has made a fortune out of poultry.

BUY Prices have hit bottom—Book for Fall Shipment.
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Ask for car lot prices
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In The Poultry Yard

A Dust Bath

If fowls have easy access to a dusty earth wallow, they will keep themselves fairly free from lice, but eradication will not be entirely complete in the majority of cases. A good dust wallow may be made of equal parts sifted dry loam and coal ashes. Wood ashes should not be used, as they may bleach or burn the shanks and feathers.—P. M.

Lice on Chicks

To kill the lice upon chicks, dust the mother hen or paint the walls of the coop with some liquid lice killer or disinfectant. Especial care should be taken to dust the male of the flock thoroughly, as the quickest way to spread lice through a flock is by means of the male bird.—A. M.

Fouling the Soil

Cropping the soil aids a great deal in keeping the yards in good condition. The owner may not be aware of it, but he will soon be out of business if he does not take care of his yards by cropping them, liming them or plowing them under.—A.M.

Use Oats

Oats is perhaps the cheapest food we now have for poultry. It is also one of the best feeds we can give to the chickens, both the young and the old. It is best fed when sprouted, and it is also relished best by the birds in this condition. Use plenty of oats and save the wheat. It is a good plan to cut down on the wheat and add oats to the ration. The chief danger in feeding oats lies in the hulls. It is too expensive to buy hulled oats, and about the only way to eliminate the trouble is to soak the oats, or, still better, sprout them.—A. P. M.

A flock of white geese on an Ontario farm. They sell from $2 to $3 each.

Meat Scraps

Large quantities of meat fed to meat-starved hens are always harmful, and it would be better to feed no meat at all than to feed it in feast and famine fashion. When milk is not available, every keeper of poultry should have on hand a bag of commercial meat scrap and introduce this into the dry mash ration to the extent of 20 per cent. Chickens are meat eaters, both the little chicks and the mature hens, the mature hens using it in the production of eggs and the little chicks in the production of blood, muscle, bone and meat.—A. P. M.

Secure Grit for the Poultry

Grit is hen's teeth. The purpose of the grit is to so grind the hen's food that it may be readily digested. This purpose of grinding is all the better understood when we remember that as far as the mechanical part of digestion is concerned it amounts to putting solids into such a physical condition that they readily become soluble in water. As hens have no teeth the grinding of their food is done by the grit that the hen picks up in the course of her day's work. In the winter time, when the ground is covered with snow, or when the hen is kept away from the earth, one sees that grit must be provided by her owner or the hen will not have the means of properly breaking up her food and for this reason the first step in her nourishment will be impeded.

If any poultry feeder will try the simple experiment of first rubbing grain in a bag filled with round, smooth stones and afterwards of rubbing the grain in a bag filled with the same stones so broken that they have sharp edges, he will see that the grain ground among the stones with the cutting edges is ground much finer and much more quickly. This experiment should convince him of the necessity of providing his poultry with sharp grit. Yet this is a point frequently overlooked, and is one of the small omissions that means that the hen fails to fatten or to thrive because she is not getting all from her food that her owner expects.

One way to procure this grit is to secure the article sold by the vendors of poultry supplies. Still another method is to visit a limestone quarry and to secure the finer parts of the stone where the wagons are loaded. Still another method is to break up limestone on one's own premises. Broken dishes or crockery ware may be utilized in this way. When the breaking of such ware is done at home it is best to use a barrel with a strong bot-

tom or a re-inforced box in order that the broken parts may not be scattered to the breaker's loss or injury.

The purpose of the grit should ever be held in the poultry owner's view. This purpose is the grinding up of the fowl's food. The purpose is quite as mechanical as the function of teeth in other animals and every aid possible should be afforded the fowl for the complete grinding up of her food. If the grit is provided biddy will make a diligent use thereof.—A.B.

October Sales

With the advent of October the poultryman is faced with the problems of winter care. This year when every ounce of food is required for the defence of the Empire no poultryman can afford to feed a single bird that does not yield a profit. Hence the necessity of his getting rid of all stock that he does not require. All cockerels that are not kept for breeding purposes should be disposed of before snowfall, as well as all hens that are more than a year old—unless such hens have a record that justifies their keeping for breeding.

It is at this point that the farmer is liable to lose money. His tendency is to gather up all his spare fowl and to market them forthwith. It is far better practice, however, to place all the fowl intended for summary sale, to close quarters and to set apart a few of them for the fattening crates in order that they may be properly fleshed for the best market. During the summer months the birds have been building frame and constitution and for these reasons they are in ideal condition for taking on flesh and for adding immensely to their sales value. The fowl that is thus fattened will, in two or three weeks, add from two to three pounds to his weight, while the housekeeper who knows the texture of the crate fed fowl will gladly pay more for the bird that has been fleshened in this way.

Further, during this month the farmer will do well to lay his plans for the winter sale of fattened stock and of eggs. A few hours spent in the city or town in interviewing hotels and boarding houses or housekeepers often will result in arranging for regular weekly sales that will insure good cash returns throughout the winter. Such purchasers will be glad to arrange for a regular supply while the farmer will be stimulated to keep things moving at his end.

The farmer, however, must be prepared to make such sales a matter of business and be prepared never to disappoint his customers and to be certain never to fall below par in the quality of his goods. The farmer who has a reputation for good business methods will never look for customers, while the farmer who tries bluff or any kind of sharp practice whatsoever, either in the quality of his goods or in his deliveries is soon found out and his slipperiness made known in every boarding house and private family in the region where he practiced his dishonesty. Don't sell packed eggs for fresh ones.

Sound Land Sense

"No man nor company of men has the right to hold land and get rich at the expense of the people who are settling in the districts. We have an empire of arable lands in the North, and there is plenty of land in other parts of British Columbia for agricultural settlement," says Hon. J. W. Weart, Speaker of the B.C. Legislature, in the *Financial Post.*

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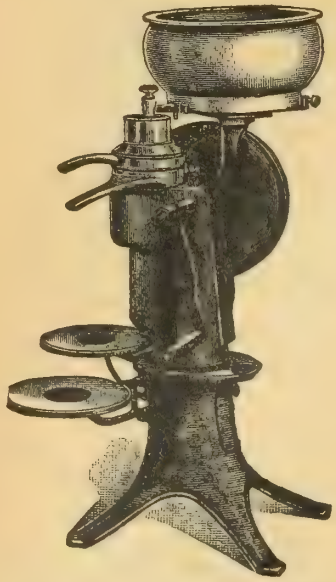

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The Business of Dairying

Solving the Feed Question

Here is the way one dairyman sizes up the present situation of high priced feeds and shortage of labor in the dairy farms:

The great problem confronting all dairy farmers and breeders of dairy cattle is the feeding problem. The help proposition is bad enough but the feeding proposition is still worse and unfortunately becoming worse still.

The answer may be summed up in just two words—increased efficiency. And increased efficiency means to the dairy farmer these things: the discontinuance at once of the prevailing practice of purchasing drove cattle and the inauguration of a system of developing home bred and home raised calves; the getting into pure-bred and out of scrub stock as rapidly as possible; the reduction of the size of the herd maintenance and the elimination of "boarder" cows, and short profit cows at the earliest possible moment, and the establishment of a minimum fixed standard of production; the acquirement, for use upon those retained permanently, of a really good bull; and last but not least, the growing at home, for a limited herd, of a large percentage of the grain ration and the increase of net returns; rather than the continued purchasing, at exorbitant prices, of by-product mill feeds for the maintenance of a maximum herd of indifferent average productive capacity.

Increase net returns—keep down expenditures; maintain fewer cows, but better cows; raise more alfalfa, peas, and beans; cultivate more home grown protein, and stop wearing out the roads for the benefit of the feed dealers. Do less gross business and make more clear money, meantime improving all the time your farm and your cattle.

He Keeps Them Contented

We were discussing the merits of a noted breeder and feeder of cattle and the owner and employer thus summed up the merits of his stockman who had brought him out on the right side not only in the show ring but on sales day.

"He has a way of inspiring confidence in each animal," the employer continued. "For one thing, he never misleads the animals in regard to the time of feeding. They are fed as regularly as the hour comes. They always get plenty. Not only are the animals fed regularly but they have regular hours of rest. During these hours their privacy is respected. When an animal lies down it does so in the confidence that its rest will not be disturbed. During the grooming no teasing or worrying is allowed. Brush and comb and fork are never used in the place of whip or gad, with the result that the animals are perfectly at ease and contented. And it pays to have just such a man to look after one's herd."

This feeder and breeder of international reputation has discovered a secret without a knowledge of which animals cannot come to their best nor their owner's bank account grow satisfactorily. An animal is a part of farm equipment that must be used in such a manner as to yield the largest returns. Part of this treatment is the art of keeping him free from nervous tension. In his undomesticated state the animal is on the alert for enemies. This alertness is his price of safety. Even in the cultivated state this suspicion remains and under unfriendly treatment this suspiciousness is roused to the owner's financial loss. At best this natural suspicion is but in abeyance and is called forth on very slight provocation, such as a failure to receive food or water or on his being disturbed when rest is the order of the hour. A quiet manner, regularity in feeding and attendance, the exclusion of noises and disturbing dogs and insects and visitors, to say nothing of a comfortable bed freedom from drafts excessive heat or cold—are some of the features that serve to make the rearing of animals satisfactory and profitable.—John Annis.

The Milk Problem

We are not the only nation trying to improve methods of getting milk from the producer to the consumer and to make sure of an ample supply, says *Hoard's Dairyman.* The belligerent nations of Europe have been trying to improve distribution and to conserve their cows for some time. Germany was giving this matter attention before the war broke out. The cost of getting milk to the consumer was too great. The poorer classes of all countries have curtailed their use of milk, because they have felt they could not afford to pay the prices asked for it.

The farmer has sold the milk at very reasonable prices, but methods of distribution have been expensive. The consumer who has had ample means to purchase milk has brought about expensive methods of delivery, and provisions for supplying classes who desire and demand a cheaper milk have not been provided. In New York there have been established milk depots where bulk milk is sold for less than bottled milk. At the present time bulk milk is sold for 8½ cents a quart and the same quality of milk delivered in bottles costs 12½ cents. The consumer can save 4 cents a quart by furnishing his own package and making his own delivery. It costs in Connecticut, at the present time, 6.5 to 7.0 cents to produce a quart of milk, and when the consumer can purchase a quart of bulk milk for 8½

cents in a city like New York it is reasonable.

The *Irish Homestead* has this to say about the milk situation in England and what was done in Germany towards cheapening the distribution of milk:

"It is important that the price paid to the producer should be adequate, and that the price paid by the consumer should not be onerous. By keeping down the expenses of distribution this could be accomplished. It would be necessary to establish milk depots at convenient centres, to which the creamery should send whatever quantity of milk was required. By eliminating the expense of delivery, the people of a town so served could be supplied at a reasonable price with pure milk. The adult population ought to be encouraged to use separated milk for their own consumption, leaving the whole milk for the children. If the details were properly worked out, it ought to be possible for a creamery to manufacture a certain proportion of butter, to undertake the milk supply—both in whole and in separated milk—of the adjacent town and villages, and of as much of the countryside as it could deal with.

"As an example of what might be done, we would point to the method adopted for the supply of the city of Mannheim in Germany. In 1911, after much debate on the propriety of putting the milk supply of the city under municipal control, a co-operative society was founded to undertake the distribution of milk for the city. The undertaking might never have been attempted had it not been for an outbreak of cattle disease, a shortage of milk, and a resultant increase in price, which bore heavily upon the poorer classes. The constituent members of the new society were the City Council, the Parish Committee, the Women's League, and various consumers' societies, together with the Union of Agricultural Co-operative Societies of Karlsruhe representing the producers. The capital subscribed was about £1,500, nearly half of which was subscribed by the city. The society opened a depot and entered into contracts with co-operative organizations of farmers, and with individuals as well, for daily supplies of milk. The producer—or his organization—agrees that the milk supplied shall be clean and shall conform to the requirements of the municipality. The depot supplies cans of an up-to-date pattern to the producer, if he requires them, and it undertakes to take the same quantity of milk from its suppliers each day. The price is regulated by agreement. This method of supplying milk to a town has been a thorough success in Mannheim."

Saving Milk Bottle Losses

A few years ago one of the chief sources of worry in my dairy business was the loss on milk bottles, says a farm writer in *System on the Farm*. The fact that I was not alone in this did not help matters much. One concern in another state, I learned, was losing three hundred dollars' worth of bottles a month. Another dairy in our state found it necessary to replace its stock of bottles every three months—a monthly loss of 33%. While I do not know the exact percentage of our losses, it was sufficient to cut a big hole in the profits.

I worked over the problem for a long time before I found a remedy. Then I decided to place upon the drivers the responsibility of returning the bottles, allowing each driver one-fifth of a cent commission on all bottles returned. This did not work out so well as I hoped, however. If a driver returned only 75% or 80% of the bottles delivered that week, he received sufficient commission to satisfy him. The drivers did not consider the last few cents important enough to go after, while I realized that it was through this very source I was losing money.

Accordingly, two years ago I changed the plan. Now the drivers receive a commission of one-half a cent a bottle on the last ten per cent. of the bottles returned each week. Of course, that is an inducement for the driver to see that all the bottles on his route are in by the end of the week, when pay day comes and bonuses are paid.

Suppose, for example, a driver has delivered one thousand bottles in the course of a week. If he returns one thousand bottles that week, he receives one-half a cent each on ten per cent. of that number, or fifty cents is added to his week's pay.

This may not seem like a very big inducement, but set over against this is a penalty. If a driver returns less than ninety per cent., which in this case would be less than nine hundred bottles, one-half a cent per bottle is deducted from his wages for each bottle not returned. Needless to say, there are very few occasions when this penalty must be imposed. Since the responsibility for the return of the bottles rests upon him, each driver sees to it that each of his customers returns every bottle delivered to him during the week.

Not only does the driver see to it that the bottles are returned, but also that they are returned promptly. The fact that his wages and the bonus are paid on a weekly basis is sufficient inducement for that.

Since this plan in its present form has been put into operation, 98% of our bottles come back to us every week. A loss of 2% is small indeed in comparison with what I formerly lost, and means a saving of many dollars in excess of the bonus paid to my drivers during the year.

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About Live Stock

Prairie Live Stock Increasing

The live stock outlook in western Canada is very bright. Our farmers are making every effort to get more extensively into live stock.

The principal handicaps are lack of buildings, fences and capital. But wonderful progress is being made and these handicaps are being overcome. Our Department of Agriculture has already distributed eight cars of cows and heifers this year. These animals are sold to farmers on time. The high price of feed is having some effect, but there is a steady increase, and the desire to increase the numbers is universal.—Hon. W. C. Sutherland.

Money in Hogs

Willard Embury of Newburgh fed a bunch of hogs from October, 1916, to March, 1917. All the feed was bought, but some home grown feeds were fed but charged at regular market price. The cost of the feed fed and the cost of the young hogs purchased was approximately $300. These hogs were sold for over $600 so that the profit on this lot was over 100%. This I consider especially good for feeding a large number of hogs for winter. These two cases indicate that there is good money in feeding hogs at present prices even when all the grain is to be bought and the young pigs purchased.—G. B. Curran.

Last Year's Markets

The annual turkey days were held in Napanee last year on November 29, 30 and December 1. A new plan was tried out, all the buyers being required to go to the market and bid. There were 15 buyers present and there was lots of competition. The prices were the highest ever paid in Napanee. Turkeys sold for 31c to 38½c, chickens from 15c to 27c, ducks went around 18c and geese 22c. One woman sold $700 worth of dressed poultry, mostly turkeys. The three banks paid out in actual cash $17,000, $10,000, and $8,000 making a total of $35,000 for three days. This is about the same amount as was paid three years ago when there were nearly double the amount of poultry offered for sale. Despite the high cost of feed, it has been very profitable to farmers to buy feed and raise poultry last year. The buyers state that Napanee is the largest poultry centre in Canada and that the quality of dressed poultry marketed at Napanee is much better than at any other point where they buy.

In addition to the poultry market in Napanee on turkey days, buyers have been buying at Marlbank, Tamworth, Enterprise, Newburgh, Bath, and Amherst Island all fall, and a continual stream of poultry has been going out of this county since September. I think that it is quite reasonable to estimate that from June 1, 1916, to the end of December, 1916, that over $100,000 worth of dressed poultry was marketed in Lennox and Addington County. What has this year's returns to compare with it?

Future Demands Look Good

W. J. Black, Dominion Commissioner of Agriculture, says that since the war began there were 28,000,000 less cattle, 50,000,000 sheep and over 30,000,000 less hogs in the world. The result would be, said Mr. Black, that in the years after the war, the prices of meat products and live stock would still remain high. The farmers were not receiving prices out of proportion when compared with prices of other products which the people were buying.

New Shorthorn Association

There was recently organized in Chicago the Chicago Shorthorn Cattle Club, the membership being made up of men of means and large business affairs who own farms within easy distance of Chicago, and who maintain on these farms herds of shorthorn cattle. Once each month some member of the club entertains the other members and friends at his farm, and the affairs are a source of much pleasure and practical usefulness.

Recently James Brown entertained at Thaxton Farm, near Dundee, Illinois, where Mr. Brown maintains an excellent herd of shorthorns. The attendance numbered about seventy-five, prominent shorthorn breeders being present from many parts of the country. The day was a delightful one, and after Manager Noel Gibson had shown the visitors the Thaxton shorthorns the guests were served with a fine dinner, following which a number of talks were made. The principal speaker was Hon. Duncan Marshall, director of agriculture for Regina, Canada. Other speakers were Reid Carpenter, president of the American Shorthorn Breeders' Association; De Witt Wing, Abram Renick and Sec. F. W. Harding. Each guest was presented with a handsome walking stick suitably engraved. The president of the Chicago Shorthorn Cattle Club is Thos. E. Wilson, head of Wilson & Co., the packers, and the secretary is F. W. Harding, secretary of the American Shorthorn Breeders' Association.

A Wheat Mine

Wm. Hutchison of Princeton, near Woodstock, Ont., marketed 1,200 bushels of wheat from 39 acres for $2.30 per bushel.

An open fireplace should be a feature of every farm house, where the young folks can see in the glowing coals bright visions of the future; the older, visions of the past.

Sales and Wants

The Farmer's Exchange

5 cents a word—per month

Rates for Classified Ads.—Insertions in this column five cents per word per issue. Each initial, four or less figures in one number count as one word. Name and address is counted as part of the ad. All orders must be accompanied by cash. Forms for the month close on 12th preceding month of issue.

JEWELRY

WALTHAM WATCHES — $5.50 TO $150.00. Reliable timepieces. Send for free catalogue to The Watch Shop, Wm. E. Cox, 70 Yonge St., Toronto. (tf)

RAZOR BLADES SHARPENED BY experts — Gillette, 35c dozen; Ever-Ready, 25c. Mail to Albert Keen Edge Co., 180 Bathurst Street, Toronto. (4-18)

SEED WHEAT WANTED

WANTED, SEED WHEAT—MUST BE free from injurious seeds. Send particulars at once to Box 21, The Farmer's Magazine, 143 University Ave., Toronto.

BUGGY FOR SALE

FOR SALE — TWO-SEATED RUBBER-tired buggy; good as new, $50. This buggy originally cost $150, and will prove an ideal family buggy. Apply Box 210, The Farmer's Magazine, 143 University Ave., Toronto.

HORSE FOR SALE.

FOR SALE — A DRIVING MARE weighing about 1,050 lbs., quiet in every way, not afraid of autos. Will make an excellent family driver. Price $75; must be sold before Nov. 1, consequently the low price. Box 20, The Farmer's Magazine, 143 University Ave., Toronto.

BOOKS

WEALTH FROM THE SOIL—BY C. C. Bowsfield. A book that gives us many useful hints on how to make the farm pay. "The earning power of such places reaches as high as $5,000 a year." It gives facts and figures. Postpaid for $1.00. The Farmer's Magazine, 143 University Avenue, Toronto, Ont.

THE BUSINESS OF FARMING — BY Wm. C. Smith. Do you believe in the influence of the Moon? This author treats this subject from experiments on his own farm. This takes only a few pages, and the whole book is a useful one. Postpaid, $2.00. The Farmer's Magazine, 143 University Avenue, Toronto, Ont.

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Meat Cuts and Their Uses

A Guide More Especially for the Housekeeper in Buying Meats or in Using the Home Supply.

By E. M. MUNRO.

This article is reproduced from the February number of the Farmer's Magazine in response to a call from readers.—Editor.

WHILE the "pattern" for cutting up a meat carcase differs in different localities, the diagram shown here may be taken as representing pretty generally the butcher's cuts throughout the country.

DIVIDING THE BEEF CARCASE—FORE-QUARTER.

The beef carcase is divided first through the back bone into two sides, the hide, head, feet and other offal being removed. Each side is then divided into a fore and hind quarter. Inside the fore-quarter, running from the first rib to about the seventh rib at the breast-bone is a part of the diaphragm called the skirt steak, which is peeled off first. From a point on the rib about twelve inches from the back-bone, a cut is made across the ribs to the shoulder socket, and then between the ninth and tenth ribs to the back-bone. This gives the "set of ribs." The first six of these are "prime" and the last two "chuck-ribs." The prime ribs are divided into two or more rib-cuts and are used for oven roasts, often boned, stuffed with dressing and rolled. The chuck ribs contain some part of the shoulder-blade and are generally coarser and less expensive, but the flavor is good and the chuck roast makes a good purchase where a large and inexpensive cut is desired.

A cut with the knife from the ninth and tenth ribs down to the breast, detaches the plate and the navel. Both of these are used for soup-meat, pot-roasts, for boiling and for corning. The plate is especially good for corning as it has the popular streak of fat and streak of lean.

A continuation of the knife from the tenth rib through the shoulder-socket to the neck removes the "butcher's chuck." Slices of this cut parallel with the ribs make chuck-steaks. They are lean, contain comparatively little bone, are fairly tender, and of good flavor. A cut of one or two ribs will make an inexpensive oven roast. The rest of the chuck, as top-chuck and neck is used for pot-roasts, soups and for corned beef. It is also excellent for braising or casserole cooking with vegetables.

From the upper side of the shoulder-bone is cut the cross-rib. This is excellent for pot-roasts. The strip on the under side of the bone, and on the front of the shin-bone is called the shoulder and is used for stews and soups. The meat on the shin-bone is usually sold on the bone, for making soups. Of the brisket the lean part is sometimes removed from the bones and used for pot-roast and for boiling. Usually, however, the whole piece is used for corning.

HIND-QUARTER CUTS.

The kidney-knob is first removed from the hind quarter, leaving enough suet to cover well the muscle that otherwise would be exposed. The kidney makes a good brown stew. The flank is next cut off as shown in the chart. It has prac-

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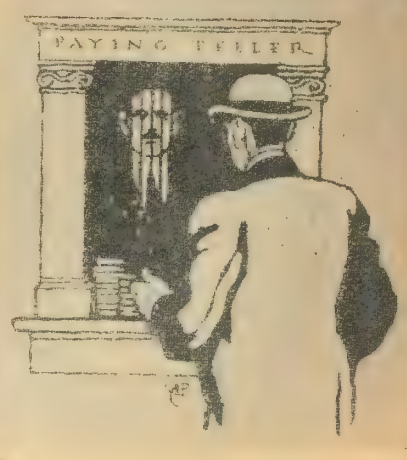

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tically no bone and is very fat. The fat is trimmed out and the lean cut up for stewing or boiling. From the inside of the flank a good steak may be taken. This is a good steak to fill with dressing and bake as Mock Duck.

The top sirloin or thick flank, like the cross-rib on the fore-quarter is used for pot-roasts, while the first cuts are served as steaks. A continuation of the knife through the ball and socket joint of the hip to the middle of the sacrum gives the round and the loin. The latter, with the ribs of the fore-quarter constitutes the "prime" meat of a bullock, the part most in demand on account of its tenderness and flavor.

Beginning at the rump-end of the loin, sirloin steaks are cut as far in as the hip or pin-bone. Adjoining the hip-bone are the porter-house or "T" bone steaks, and they are so called so long as they contain the tenderloin or fillet. The steaks or roasts at the rib-end of the loin are the Delmonicos or club steaks, an excellent choice for the small family. The tenderloin, under cut, or fillet, lies under the transverse processes of the loin; these are the little bones that run into the meat from each side of the back-bone. It is often roasted in one piece with dressing,

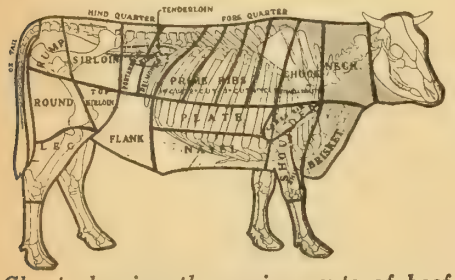


Chart showing the various cuts of beef and their location in the carcase.

and is more juicy and flavorsome if cut so as to include some of the surrounding suet.

The rump is cut from the round and used for corning or roasting. There is much bone and fat in it, but if a large roast is desired it makes a tender, well-flavored, and economical purchase.

The round is the thigh of the animal; it is stripped off the bullock-bone and divided from the leg at the joint. On the butcher's block it consists of top and bottom round, the latter being the outside of the thigh. The first slices from the top round make very good steak, and the round makes the best beef-tea. The meat is also used for roasts and for Mock Duck, and the end of the top round is sold for pot-roasts and frequently put into brine for corning with the bone removed. The meat on the leg-bone is termed leg, and like the shin on the fore-quarter is used for soups.

VEAL.

The carcase of a calf is divided into quarters, usually with the first rib on the hind quarter. The leg is cut off just below the hip-joint and is used for roasting. Cutlets may be cut from the leg or a thick piece may be taken for fillet. When a shank (the knuckle) is left after the leg is cut up, it may be used in a stew, but is more often taken for soup-stock. The rump is separated from the loin just before the hip-bone. Both these are roasting pieces, and the latter may be cut into chops.

From the fore-quarter is raised the shoulder, leaving the ribs well covered with meat. The breast which runs the length of the fore-quarter is divided from

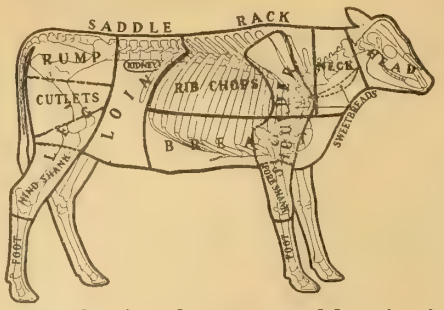


Chart showing the names and location in the carcase of the various cuts of veal.

the ribs by a cut running a little above the connection of the first rib on the fore-quarter with the breast, and the same connection at the last rib near the neck. The bones of the shoulder may be removed and replaced with dressing. The shoulder and the breast are roasted, and the latter is also used for stewing. When used for roasting the rib-bones may be taken from the breast and a "pocket" cut into it for a dressing.

The neck-rack of veal (the neck and the five ribs adjoining) is used for stewing and roasting, a pocket often being cut into this also and a dressing used. The rack (the ribs between the shoulder and the loin) can be roasted, but it is more often cut into chops.

The sweetbreads, a luxury the calf supplies, are the thymus and thyroid glands or the heart-bread and throat-bread. The pancreas or stomach-bread which is the true sweetbread is used but rarely. Sweetbreads spoil very quickly. As soon as they come from the market they should be plunged into cold water and allowed to stand one hour, drained, and put into acidulated salted boiling water and cooked slowly for twenty minutes; again drained and plunged into cold water that they may be kept white and firm. Sweetbreads are always parboiled in this manner for subsequent cooking. They are usually sprinkled with salt and pepper, dredged with flour, brushed with butter and larded or covered with bits of salt pork and baked for twenty-five minutes.

MUTTON AND LAMB.

The pluck (heart, liver and lights) of the sheep and lamb are removed and the carcase divided into sides by splitting down the back-bone. The fore and hind

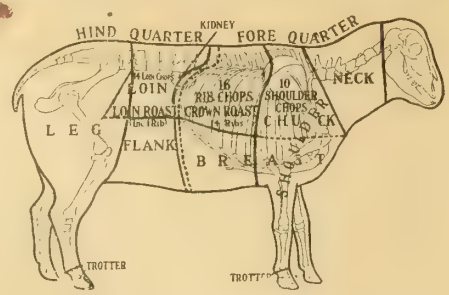


Chart showing the names and location in the carcase of the cuts of lamb and mutton.

quarters are separated by dividing the side just behind the ribs. The cuts of sheep and lamb are the same, the leg, the loin, the rack consisting of the ribs behind the shoulder, the fore-quarter or chuck which, as generally known, contains four ribs and the breast.

The whole hind-quarter of both mutton and lamb is used as a roast, as in the lamb. The leg is cut just before the hip-bone and is used for roasting, and in mutton is also used for boiling.

The loins and the racks of both are used for roasts and for chops. Loin chops are the better purchase if cost and nourishment are considerations, as there is less waste of bone, and they are tender and of good flavor.

The chuck of mutton and lamb is used as a roast and for stewing, if cut in pieces. The shoulder may be used as a roast, or three chops (round-bone shoulder chops) may be cut across the ribs and round shoulder-bone, and then two or three more (rib or blade shoulder-chops) across the ribs. Many people consider the shoulder-chop of excellent value. It depends, however, on the animal and the price. If full-meated, and if the neighborhood demand allows of a reasonable price, the shoulder-chop is excellent for either broiling or casserole use.

The breast and flank of mutton are used for stew, and the breast of lamb for stewing and for braising; the necks are used for stews and broths.

When a saddle of lamb or mutton is required it is necessary to leave the carcase

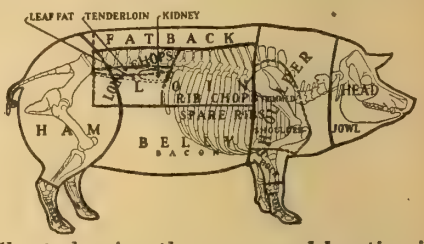


Chart showing the names and location in the carcase of the various pork cuts.

unsplit. The short or loin saddle consists of the two loins joined together, while the English or tail saddle consists of the two loins cut "long" to include the tail and part of the legs as far back as the hip-joints. These cuts are used only for roasting and represent the very finest of mutton roasts. Some of the ribs may be included if a larger saddle is required.

PORK.

The pork cuts are so familiar to most of us that little need be said about them. After the carcase is split down the back bone, the rough ham is taken out and trimmed down in slices to make the round piece which is used fresh, corned or smoked. The tender trimmings are used for frying and broiling.

The pork cuts and their uses are so familiar to most of us that little need be said about them. The chart shows the general method of cutting.

There should be as big a barn on each farm as its owner can afford. It should be big enough to shelter all the livestock and should, above all, be warm and comfortable, even if it is not strictly modern.

A nice well-painted wagon or other farm implement actually helps a man to grow better crops. It stirs the pride in his heart, and the man that thinks well of himself, his tools and his farm animals, cannot help doing his work well.

The Care of Beans

A great many farmers have grown beans this year who never cultivated this crop before. Hence the need of their being on the alert to keep their crops in good shape and to make as well out of their product as they possibly can. The truck gardener who has a considerable quantity of beans will find it good business to market his product gradually. The farmer who does not go to market regularly should consult a commission merchant or a dealer and so get rid of his beans as advantageously as may be.

When a farmer has a considerable quantity of beans on hand he will find it necessary to keep his beans thoroughly dry. The beans should be hard and full of "rattle" or they are in danger of moulding. An occasional run through the fanning mill will not require much time while the gain through ventilation will be gratifying.

If the farmer has had a crop of beans that has been above the average he will prove a public benefactor to advertise the fact and to keep his product for seed. Good bean seed will be in lively demand next spring.

Poultry House Ventilation

More farmers fail in the winter care of poultry through neglect of properly ventilating their poultry house than from any other cause. The henhouse that is free from bad odors is the exception rather than the rule, while the house that is free from excessive dampness is rare indeed. The pity of it is that both features are altogether unnecessary. A little dust or chaff sprinkled so as to catch the droppings together with a bi-weekly removal of all droppings will keep down all odors, while a liberal sprinkling with coal oil or some good commercial disinfectant will be all that is needed to keep away mites and disease.

And the matter of ventilation need give no serious inconvenience. All that is needed is a few boards thrown across the joists of the house, these boards being left six or eight inches apart. Over these boards straw should be thrown to a depth of about a foot, while provision should be made for the constant passing of a current of air between the rafters and the top surface of the straw. In this way provision is made for a constant circulation of air in the poultry house while no draft is caused.

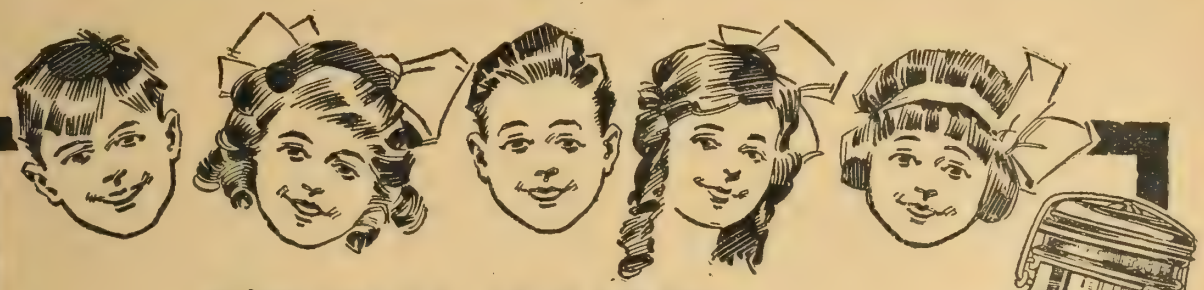
Preserve, and Label, Your Beet Seed

In the haste that attends the last duties of the fall, no gardener can afford to neglect the matter of laying aside his seed for the next year's crop. Yet this is a precaution frequently neglected. By all means the best time for setting aside the potato seed for the next spring is in the fall when the crop is being dug. The whole situation is then before the farmer and he may make his selection in view of the field dug and of the field to be planted. The same is true of his beans and of other truck which he expects to produce from his own plots.

Equally important with the selection is the matter of labelling and placing where there will be no accident from sales or from the invasion of children or unwarned help or from others who may visit one's premises. Nothing is more annoying than to have one's seed sold or eaten or mixed after pains have been taken to set aside a pure and select article for planting purposes. The label is important, as in the haste of spring work it is the easiest and most likely thing in the world to forget or to become confused, with disastrous results to all concerned.—J. K.

Grim Determination

That there is a grim determination to fight on to a real victory and lasting peace is evidenced by such papers as the *British Weekly*. Sir Robert Nicol writes in a recent issue: "In any case we cannot leave this work half done. The Germans must be brought to their knees. We must make sure that no such colossal tragedy darkens the life of our children as has darkened ours."



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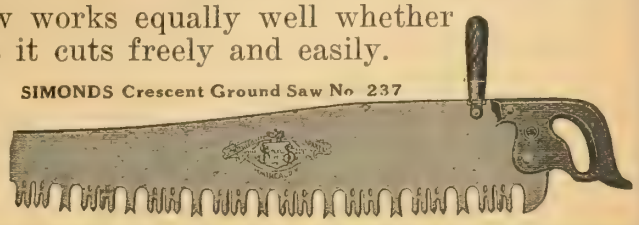

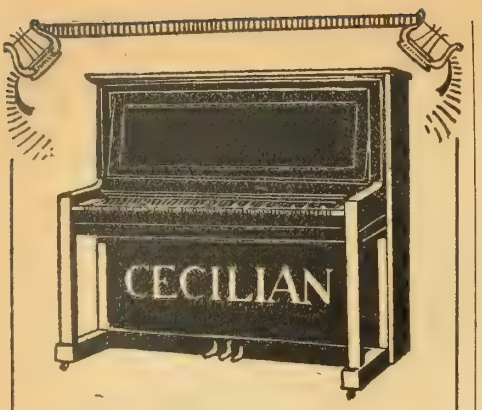

Music Makes a Happy Home

There is no other single factor that contributes so liberally and so surely to the promotion of happy conditions and an ideal social atmosphere in the home life as does music.

Under its delightful influence life assumes a brighter outlook, petty differences are forgotten and the spirit of good-will predominates.

It is on the farm perhaps more than anywhere else that the benefits of music in the home can be best appreciated.

These desirable conditions of home life are easily attained by the purchase of

The World Famous CECILIAN PIANO

which is the centre of attraction in countless numbers of happy homes in all parts of the civilized globe.

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Music in the Home

This department is opened in order to give some prominence to what has come to constitute a large part of our rural homes—music. No house is complete without some form of music and music is confined to no form or to no instrument. The joys of song, the beauty of the human voice, the music of children, the divers instruments that furnish sweet sounds, all soothe as well as write the histories of our national joys and woes. In ancient times we read that the wine press was trodden and the vintage which closed the harvest, was gathered with a song. The farm home of Canada that carries no music in it, is either deserted or brewing discontent.—Editor.

Nature's Weird Music

By JOHN BURROUGHS

In the *Art World.*

WAIT long enough and Nature will always have a fresh surprise for you. I have seen in my life only one big maple tree utterly destroyed and reduced to kindling wood by a thunderbolt. I have never yet known lightning to strike a beech tree, but probably if I wait long enough I shall seet it or hear of it. long enough I shall see it or hear of it. called whorled pogonia. and only once found a plant called the Devil's bit, but in time I hope to find another of each. I have only once seen a wild bird turning over her eggs in her nest as does a hen. I have never but once seen the Golden Eagle soaring above my native hills and that was seventy years ago. No wild animal of the cat tribe other than the ordinary wild cat had been seen or heard in my native town in the Catskills in my time. till a few years ago, when a new cry was heard. Let me tell about it:

One still moonlight October night, as I was sleeping on the porch, a bit of natural history on four legs which I had never heard before, let out such a cry and wail under the hill within a stone's throw below me, that I was startled and puzzled beyond measure. I thought I knew the natural history of the Catskills, pretty well, but here was a cry absolutely new to me. There was first a loud, strident, murderous scream, such as a boy might utter when utterly beside himself with fear or pain, followed by a long tapering moan and wail, like the plaint of a lost soul. It was almost blood-curdling. Five times. with less than half a minute interval, the creature or lost spirit rent the midnight silence with this cry, followed by the wail of utterly hopeless despair. I raised myself up on my elbow and listened. Each scream echoed off in the woods a few hundred yards away, but the moan faded away in the moonlight and became a mere wraith of sound. I could not help visualizing it, and see it mount up toward the moon and become fairly blue and transparent in its beams. I was partially disabled from the kick of a horse around whom I had become too coltish in the field the day before, and could not get up and run to the brink of the hill, below which the creature seemed to be. What could it be?

The next night it came again at about the same hour, but I was sleeping too soundly to be awakened. A young couple from Kansas were sleeping in separate beds in the chamber above me; they heard it and the wife was so scared that she got up and crept in the bed beside her husband, when her fear was communicated to him and neither of them slept any more till morning. The next night we all lay awake listening till after midnight, but the performance was not repeated. Not long after I visited the Zoological Park at the Bronx and described the sound I had heard to the Director. "A puma," he said, "probably one escaped from captivity and calling for her mate." The Director had heard them cry hundreds of times and he repeated the cry. "Was it like that?" "Not a bit," I said. "No human voice could give the scream I heard, or imitate the hopelessness of that wail." The only sound that I had ever heard that was at all like the cry, was uttered by a young man whom I caught one night stealing my grapes. I suddenly rose up amid the vines, draped in black, and seized him by the leg as he was trying, half paralyzed with fear, to get over the wall. He gave forth a wild desperate-animal scream, as if he had found himself in the clutches of a veritable black fiend. Only the wild animal which slumbers in each of us, and which fear can at times so suddenly awaken, was vocal in that cry. As for the utterly forlorn and heart-breaking crescendo of the midnight wail I heard from my sleeping-porch, I have never heard anything approaching it from man or beast.

There were traditions in the neighborhood of some such mysterious cry having been heard here and there for the past seven or eight years, frightening horses at night, causing them to tremble and snort and stop in the road, and almost paralyzing with fear a young fellow and his girl crossing from one valley to another on their way home from a country dance.

Six years ago, on a warm July night, a

woman friend of mine and her son, of sixteen or eighteen, were passing the night in hammocks in my orchard, when midnight they came hurrying to the house in great state of agitation; they heard a terrible blood-curdling cry. I laughed at them as city tenderfeet, told them they had probably heard the squall of a fox, or the cry of an owl, or a coon. They did not care what it was, but they would not return to their hammocks, or even try to pass another night there. They have since told me that the fearful cry they heard was like the one I described.

An old woodsman and hunter has told me that I heard the cry of the Canada lynx. And he is probably correct, though I can find no record in the books that the lynx has such a cry. In the winter of 1915 a similar cry was heard late at night on the hills above the village. It set all the dogs in town barking and people thrust their heads out of their doors and windows to see or hear what had caused the sudden rumpus. The following September, while a young man whom I know was plowing in a hill field near the woods, a large, yellow, cat-like animal came down and lingered near him. His description of it, and the fact that it had a short tail, convinced me that he had seen a lynx, and that this was our mysterious night-screamer. The young farmer ran to the house to get his gun, but when he returned he saw the big cat disappearing in the woods. Yet no one has seen its track upon the snow, and no poultry or lambs or pigs or calves in the neighborhood have been killed by it.

One need never expect to exhaust the natural history of even his own farm. Every year sees a new and enlarged edition of the book of nature, and we may never hope to turn the final leaf.

"Patriotism" Keynote of New Popular Music

The spirit of a nation finds expression soonest in its popular songs, and the latest favorites of the public show the warlike trend of the nation's thought today. Among the new popular records announced by one graphophone company in the United States is "Where Do We Go From Here?", the song that is said to be the American successor to "Tipperary." It is a typical march-song, in its spirited swing and lilt, and the merry refrain well expresses the indomitable spirit of the soldiers in France, with whom the song is a general favorite. Other songs and music in the same patriotic vein are "Over There," and "I May Be Gone for a Long, Long Time," sung by the Pearless quartette; two descriptive sketches by Prince's band; "Our Boys in a U.S. Training Camp" and "The Assembly of the Allies"; and the splendid rendition of "The Star Spangled Banner," "America," and "The American Patrol" by the Chicago Symphony Orchestra. The craving for lighter music, which is notably evident in any warring country, is met by a list of 30 popular hits, among which are Al. Jolson's singing of "Tillie Titwillow," his big parody hit from "Robinson Crusoe, Jr.," and Billy B. Van's clever topical song "Napoleon," which he features in "Have a Heart." In addition, there are 14 dances, including eight novelty dance-recordings; exquite song-gems by Charles Harrison and Oscar Seagle; hymns by Rodeheaver; chime solos, marches, trios and instrumental novelties on drum-and-piano, accordion-banjo, accordion, xylophone and orchestra bells.

Teaching Notes by Games

A recently patented parlor game that bears some resemblance to parchesi is designed to teach the players the names and values of musical notes, says *Popular Mechanics*. The board on which it is played is marked with a large staff and each move of the men on this board is determined by spinning an arrow on a dial whose circumference is marked by the seven letters of the scale. The letter to which the arrow points when it comes to rest indicates the next position to which a man must be moved. The path the men follow runs alternately up and down through successive measures. Rests and notes of various values are also marked on the dial. By taking these into account at each move the game can be made more difficult.

Publishing a Song

I have a little song that has a message for the little ones whose fathers are at the front. Could you give me the address of any firm who would take it, or better still, could you use it in THE FARMER'S MAGAZINE with or without the music?

Some day a ship will come sailing in,
From over the big blue sea;
Bringing my daddy back home again
To Mummy and Jack and me.

CHORUS

Some day, some day,
Over the big blue sea.
Some day, some day,
He will come back to me.

(2)

And he will tell us about the war,
And places where he has been;
And lots about the folks he has met,
And pretty things he has seen.

(3)

I'm sure he will come, for don't you know,
Every night I kneel and pray;
"Lord, Jesus, please keep my daddy safe,
And please bring him home some day."

Manitoba, —E. M. P.

A Correspondence Course.

The Manitoba Agricultural College is offering a winter correspondence course in the elements of building construction drawing, to the carpenters and builders of the province. A great many in the building trade have a considerable amount of spare time on their hands during the winter months, and it is hoped that this course in mechanical drawing will not only help fill their spare time, but will give the carpenters and builders taking it an elementary knowledge of drawing, which will be of considerable assistance to them in their work.

The course will consist of ten exercises, beginning with very simple exercises to familiarize the students with the use of instruments and the principles of drawing, and ending with plan of a barn, and an original house plan. The course includes work in tracing and blue printing. A complete set of instruments and drawing equipment will be sent each student. For further information write the Department of Agricultural Engineering, Manitoba Agricultural College, Winnipeg.

"We have been taking the FARMER'S MAGAZINE now for over a year and am much pleased with it.—Ontario, Geo. W. Johnson.

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Over 50 years' experience in making high-grade Pianos places the Newcombe Piano and the Newcombe Player Piano in the first rank for beauty and purity of tone, for long life, for fine appearance, and for real value.
There is a Newcombe to make your home brighter. The prices and terms are easy. Write us for all particulars.

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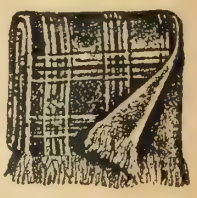

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DRIVING RUGS MOTOR RUGS

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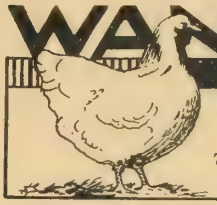

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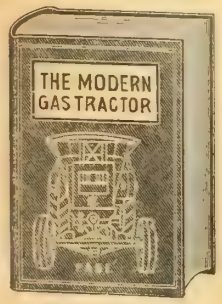

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Our Rural Mail

All queries must be accompanied by the writer's name and address. If personal answer is required, enclose a 3-cent stamp. Address all correspondence to Grasmere, THE FARMER'S MAGAZINE, *Toronto, Canada.*

Flax Attachment to Mower

J.B., Alberta—Can you tell me where to get a flax attachment for my mower? I had one when I lived in Dakota but forget where it was made.

Answer.—We do not know of any such attachment in Canada. There is a binder attachment however. The International Harvester people say that the only attachment they know of is a clover buncher or a hay buncher, but do not believe either of these will be entirely satisfactory or suitable for the purpose. The customary practice is to use a reaper or harvester with a flax attachment.

Lime for Land

Winona, Ontario.—What is the best form of lime to use on land, more especially grape land and what is the best time of year to put it on? What is the comparative value of carbonate of lime and siftings from the stone crushers at the limestone quarries? Where can carbonate of lime be obtained?

Answer.—The best form of lime to use is the carbonate of lime. The best time of the year to put this on is in the spring when the ground is freshly ploughed or just before the sowing of the crop. With regard to the comparative value of carbonate lime and siftings from the stone crushers at the limestone quarries I might say that this is answered very nicely in a bulletin issued by R. Harcourt, of the Ontario Agricultural College, Guelph, on "Lime and its uses in Agriculture" or Bulletin No. 238. He says "our experience with the screenings leads us to think that while they are cheap material it will not pay to purchase these even at a low price and pay the long freight haul. The finely ground limestone is much quicker in action and may be purchased either in bulk or in paper or cotton sacks."

You may have this bulletin by writing to the Agricultural College, or to the Parliament Buildings, Toronto, Ontario, for a copy.

Horses for Toxine Preparation

I have heard that there is a place in Toronto, where they buy horses to be used as subjects for securing anti-toxin. Can you give me any information in regard to such a place or their address? If so you would confer a favor on a subscriber to the FARMER'S MAGAZINE.

Answer.—There is such a place here in the research work of the Department of Medicine in Toronto University. They are doing a useful work but Major Fitzgerald informs me that they get all the horses they require for their purposes locally.

How to Get Cattle

G.K.C., Nova Scotia.—I noticed in the July number of the FARMER'S MAGAZINE *on page sixty-six, an article on "An easy way to get cattle." I would like to procure some Ayrshires for a foundation. Would like to hear from the Livestock Commissioner. Would you get them to write me concerning the matter?*

Answer.—The article you refer to was an arrangement of the Provincial Government of Saskatchewan and does not run outside that province. I believe though, that, the Dominion Live Stock Branch does something in this regard. Write to Mr. Arkell, acting Livestock Commissioner Livestock Branch, Parliament Buildings, Ottawa.

Alfalfa Wanted

B.L., Saskatchewan. — I would be much obliged if you could give the address of any firm or farmer that sells alfalfa?

Answer.—I am sending you a list of names of parties who sell alfalfa. J. J. Morrison, secretary United Farmers' Co-operative Co., 2 Francis St., Toronto, will give you further information.

Bees Wanted

L.M.L., Nova Scotia.—I want to get a hive of bees and I know absolutely nothing about the care and handling of them. Can you tell me where I can get such information as would enable me to care for them intelligently, and which is the better time to get them, spring or fall? I enclose 3 cent stamp for personal reply

Answer.—We instructed the provincial apiarist to write you, which he did, as well as sending you their publications. One city man I know, purchased a pound of Italian bees last spring from a well known company and now has a strong colony. Perhaps several colonies could be gotten this way.

Beef Cuts

W.W.M., British Columbia.—As secretary of our live stock association I am directed to inquire if you produce such a thing as a chart of say 12 in. by 16 in or over showing the different butchers' cuts of a beef carcass and the names of each what would be the price? Stock men here don't know the names of various cuts, nor the difference of retail values of the different cuts, so we want information so that we may do things in an intelligent and fair way, in our butcher work.

Answer.—I suppose you refer to the charts that are issued sometimes for the beef ring purposes. These show the different cuts and sometimes mark the different prices on them although these

prices are fluctuating so it is impossible to keep a chart always at the right price. We are using this for a short article on the situation in the October number of the FARMER'S MAGAZINE giving these cuts and if you will send me the names of the members of your organization who want to know these things we will be glad to send them a copy of this issue. I do not know of any chart being published at the present time although there are some reports issued by the United States Government giving them.

A Gasoline Mower and Others

N.J.B., Alberta.—Who manufactures the gasoline driven mower illustrated on page 39 in the August issue of the FARMER'S MAGAZINE? *Where can I get printed matter showing the plans of relative distances and positions of all farm buildings? What are the best grass seeds to sow on peat soils and what other crops are suitable to sow on such lands?*

Answer.—This cut was only an inventor's idea and the mower has not been put on the market yet. Regarding plans for farmsteads, we are not aware of any department in Canada dealing with this as yet. The Department of Agriculture at Washington, D.C., can advise you as to the particular service given from there. Regarding peaty soils, I am not aware that anything can be done with them. Do you mean muck soils? Drainage is first essential, then rotation of crops and mixed farming.

Relative Production of Breeds

W.W.A., Ontario.—Can you give me the relative production of the different breeds of dairy cattle under average dairy conditions. The Record of Performance shows tests that are quite different from the results under dairy conditions, although the relative productions may agree.

Answer.—A dairy expert says that it is impossible to get accurate figures, showing the relative production of the different breeds of dairy cattle, which can be applied under all conditions. The following table, based on the average production of 300 pounds of butterfat for each of the breeds, gives the relative per cent. butterfat and total milk production of cows of the different breeds:

Breeds	Milk Lbs.	Test %	Total Solids %
Holstein-Friesian	8,699	3.45	12.29
Jersey	5,836	5.14	14.9
Guernsey	6,024	4.98	14.2
Ayrshire	7,792	3.85	12.98

We believe, as indicated in this table, that cows of equal relative merit in the different breeds will make approximately equal amounts of butterfat. This leaves the variation, among the breeds, in the per cent. of butterfat and the total amount of milk produced. We estimate that under fair conditions of feeding and management, representative herds of the different dairy breeds will approximate the production indicated.

Public Library Information

H.C., British Columbia.—As we are going to start a small library in our town this fall, I am taking the liberty of writing to ask if you could obtain for me a book on this subject or give me some information as to the best system of ar-

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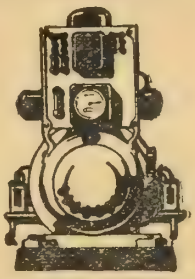

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rangements, marking and keeping record of the books. I enclose herewith $1.00 for any expense you may be put to in the securing of the above information.

Answer.—In Ontario they have a public official who is inspector of the public libraries and they hold a school each year, for librarians. So that it will be hard to condense information such as you ask in a small note. Mr. Carson, the official referred to, advises the purchase of any of the following: Bostwick's American Public Libraries, published by Appleton's, for $1.75; Dana's Library Primer, published by the Library Bureau of Toronto and Chicago; Plummer's primer by the American Library Association, at 78 East Washington St., Chicago. Some of the works advocate a code for marking etc. but these are often hard to read. The first work referred to answers this. I am returning you the dollar as there is no charge in this department. You can get further information by writing Mr. Carson, Library Department, Parliament Buildings, Toronto, or to Mr. J. H. Locke, librarian Public Library, Toronto.

A Tractor Operator

J.B.G., Ontario.—I see by the Editor's note in Globe, that a number of government farm tractors are idle for the want of someone to run them.

Now if you could arrange in any way, I will agree to operate it every day that is fit for $2.00 per day. We must have something more than horses, to get the plowing done as we are so far behind in this district with still one-third of the harvest on the field. I have been talking to a number of the farmers and they think that 45c per hour is too much

Answer.—I would advise you to write to Mr. C. F. Bailey, Department of Agriculture, Toronto, Ontario, who is in charge of the tractor work, offering your services to the government and I have no doubt but that they would place you on one of their machines at once. Also if you like you might write to Wm. Greig, of the Massey Harris Company, King Street West, Toronto, who is head of the tractor department in that institution to see if they do not need a man to put on one of their machines. They are sending out a good many machines and no doubt they would be glad to get a man that could operate them. But if you want a tractor to be brought into your neighborhood and operated there, I would advise you to apply to Mr. Bailey of the Department of Agriculture to have one sent down to your district and that you would take charge and operate it this fall. If you write the letter at once he might be able to do something for you.

Breaking Rough Land

I have fifteen acres of land to stone and level. It is very uneven, with ridges running in all directions. Could you tell me how to go about the job and what tools I would need? If so I would be very much obliged?

Answer.—As you have given us very little data to work upon, can you write further as to the exact nature of the land, the power to be got in your vicinity, how soon the work has to be done, and the limit of funds to be expended? Some breaking operations in your province cost over $200 per acre.

Statistics on Condensed Milk

From *Hoard's Dairyman.*

IN 1914 there were produced in the United States 18,196,052 cases of condensed and evaporated milk, valued at $58,747,252, while in the year from May 1 1916, to May 1, 1917, there were produced 20,652,106 cases of condensed and evaporated milk, two-thirds of which consisted of the evaporated product. The exportation of concentrated milk products has been increasing very rapidly owing to war conditions in Europe because the armies consume large quantities of this material. In the nine months ending with March, 1915, 282,860 cases of condensed and evaporated milk were exported, while in the nine months ending with March, 1917, there were exported 3,455,570 cases of condensed and evaporated milk, valued at $14,675,326.

It has been stated that the demand for concentrated milk products is so great in Europe at present that all of the companies in the United States might dispose of their output at a higher price than they are now obtaining in the United States, but they are refraining from doing this in order to supply our own army and navy, which have just entered into an agreement with the condensed milk firms to buy enormous quantities of them in the future on the basis of cost plus a reasonable profit. Recently it has come to our attention that the wholesale grocers on the Atlantic Coast have been taking steps to prevent the buying up of large quantities of evaporated milk by jobbers here, ostensibly for domestic use, and which they later export to Europe at an extremely high profit. The bill empowering the government to control exports will take care of this situation, and allow the export of the proper amount for the use of our Allies, as it has already been called to the attention of those who will enforce the provisions of this new bill.

A scene in Western Canada everywhere just now.

PRICES OF CONDENSED AND EVAPORATED MILK

Owing to the increasing demand for concentrated milk products, both in this country and abroad, and to the rapidly increasing cost of milk to the condenseries, the increased cost of labor, materials, etc., the prices of these products have been rising very rapidly. In January, 1916, a case of Borden's Eagle Brand condensed milk was quoted to the trade at $6.50 wholesale. The same goods are quoted in June, 1917, at $8.75 wholesale. In January, 1916, Borden's evaporated milk was quoted at $3.85 a case, and is now quoted at $5.75 a case wholesale.

COST OF MANUFACTURING CONCENTRATED MILK

In 1914 an authority on the manufacture of condensed milk stated in his treatise on the subject that the average cost of producing condensed milk at that time was $3.30 per case, based on paying the farmer $1.50 per hundred pounds of milk, and less the deductions for freight, brokerage, and cash discount, referred to in army contracts. He stated further that the cost of producing evaporated milk under the same conditions was $2.65 per case in 1914. These estimates were very liberal even at that time. Since 1914 there has been an increase in the average price paid the farmer for milk by the condenseries from about $1.50 to $2.10, based on milk containing about 3.5 per cent. milk fat.

Owing to the increased cost of cattle feed, labor, and other factors, and also to the better organization among farmers in the different dairying districts, the condensers are gradually paying more and more to the farmers for their milk. Furthermore, the high prices paid by creameries and cheese factories for milk have enabled the farmer to obtain much higher prices from the condenseries for his milk, but it is questionable if there is much, if any, profit to the farmer in the production of milk for the dairy industries when the value of the labor entering into milk production is figured in the matter.

It is rather difficult at the present time to figure exactly the cost of producing condensed and evaporated milk. The present price for condensed milk as furnished the government is $6.40 per case, while the evaporated milk is furnished at $4.85 per case after deductions have been made, as we have already indicated, for freight, brokerage, etc.

When we subtract 10 per cent. from the price of $4.85 per case for the evaporated milk we find that it costs approximately $4.36 to manufacture this product under present conditions.

It is apparent that between 1914 and 1917 the cost of production of condensed milk has increased from approximately $3.30 to $5.76, while in the same period there has been an increase in the cost of production of evaporated milk from $2.65 to $4.36.

Doin Yer Bit

Continued from page 22.

new-born babe on a raft if they were compelled to dig up a hill of common murphies. They could tell you what colors were fashionable in silk socks, but producing the thing that's vital to the nation—food—they do not know as much as a five-year-old child of the townships. Chivalry to the sex of my mother prevents me saying what I would say to the female of the species. But what I do want to say to the boys and girls of the farm,—do not exchange the pure atmosphere—moral and home—for the glare and lights of city streets. But I must get on. I must not preach. I want to make some observations.

Above I said I did not know anything about farming. Some day I expect to work at it—for myself on my own farm. For three decades I have been mixed up more or less in big factory output. What I learned in the factory operation, I intend as far as possible to apply to the workings of the dairy farm I have in mind. I believe a doctor should try his own medicine on himself—not on the dog. Why these resolves in a job I admit I know nothing about?

Here it is. If I worked in a factory I would get at least as much as a street-car employe of Toronto, that is 37c per hour, for ten hours, and time and a half for overtime. Ten hours is a long day. It will be hard to shorten its length on a dairy farm. The lost motion that I learned to get along without in a factory, I intend to get along without on the farm. Of course, I'll be up at five o'clock and milk. That's necessary. Otherwise, the return from milk produced would grow small.

The hired man will get good wages. I'll see that he earns them. He'll never stand around while I figure on his next job. Every minute of his time and my time will be productive, just as it is in a factory. The reader will say of course you do not know anything about farming. You talk like the rest of those city fellows. We'll see. What I want to more particularly say to the readers of FARMER'S MAGAZINE is this. Some organized endeavor should be made to have the men on the land visit

The speckled hen took a slant at it and exclaimed rather loudly, "Cut-cut-get-your-hair-cut."

The Crop and Business

In view of the great importance of the crop in relation to the Empire's food supply and Canada's business prosperity, THE FINANCIAL POST will present each week a special article dealing with the developments in a broad way and as they affect the business situation as a whole. This article will be edited by F. M. Chapman, Editor of The Farmer's Magazine, who will have direct and authoritative information on the Western Canadian situation supplied regularly by Miss Cora Hind, a former member of our staff, but now Agricultural Editor of the Manitoba Free Press, a publication whose information for some years has not taken second place even to the current Government statistics. Miss Hind's service will be supplemented by reports from the Provincial Departments of Agriculture from time to time.

THE POST believes that this special on agricultural conditions as presented to the readers of THE POST will prove a very valuable guide to the manufacturers and business men, as well as to the investing public as to the developments of the crop in relation to general business and financial affairs.

This is only one of the many news features that THE POST gives its readers every week. It has become so valuable that thousands of them renew year after year.

The Financial Post of Canada

143-153 University Ave. - Toronto, Ontario

The man with the money in Canada

CANADIAN farmers have been coining money since the war began. They have been getting war prices for grain, stock, cheese, fodder and other products. As a consequence they have doubled production. Debts and mortgages have been paid off since the opening of war that aforetime were a long and heavy burden.

Canadian farmers are spending their surplus very freely, mainly on farm improvements. More and better implements, new and better buildings, improved stables and dairies; pedigreed stock, power equipments, lighting and water systems, more comfortable homes, more labor-saving devices in homes, more indulgences—these are the things that Canadian farmers are spending money on to-day to a greater extent than ever before.

A definite, stimulating factor in directing this new condition is

The FARMER'S MAGAZINE

(Monthly)

Read This Issue Thoroughly

IT is different. It has made its own place. It is edited and produced for the progressives among Canadian farmers. Up-to-date methods, equipments and supplies of all kinds have been installed, and new houses and out-buildings erected and fitted up, on suggestions in its columns. It has a practical farmer and a farmer's daughter as co-editors, each of whom is a graduate of a Canadian College. Its contributors are authorities and leaders.

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say agricultural implement factories. More efficient handling of farm labor would be the result. The factory hand works hard. Harder than most farmers and farm hands. But the slavery and drudgery is unknown. The farmer, I think, should get as much for his ten hours as a city street car man, which he does not get now. These are my intentions at any rate.

Tom Turkey-cock eyed me with relief as I departed from the farm for the smoke, bustle and false life of the city. "Gobble, gobble," he said. His mother had warned him that some city fellow would pull his leg.

A Frank Talk About the War

Continued from page 16.

late such legislators as were approachable for public grants and concessions. The scheme was never carried out because the chief promoter came to grief and some of his associates had to leave Canada. I wrote B——. He was very grateful and expressed a great desire to be of service to me.

THE WAR WAS POSTPONED.

The opportunity came in 1912. The business and financial situation was most puzzling. In Canada, we were very prosperous; and a leading banker had said we were on the threshold of two years of the greatest prosperity in our history. Nothing could stop us. In New York and London I found no such optimism. Instead, some of my friends, who were large holders of security, told me they had got out of everything they possibly could. They were all nervous; some of them panicky as to the future. No one of them would, or could, tell me, or knew, why. It was in the air.

I arrived in Paris in July that year, and I was at breakfast in the garden of the Ritz one morning when B—— and another man came in. Seeing me he came over at once, greeted me most cordially and wanted to do all sorts of things for me. I said there was one thing on which my readers in Canada did want his assistance very much. I asked: "What is ahead of us? Is there to be war?"

He at once replied: *"There will be no war for three years. That was settled yesterday. The man I am breakfasting with is ——, the ——."*

He named and gave the official position of a man who occupied a very important place in the public life of France—a name prominent in the early days of war, but seldom heard now. That was all I got, and it left the impression on my mind that some friendly arrangement had been entered into with Germany. I left for Berlin that night and had no opportunity of learning anything more. It was coincidence that B——'s friend was on the same train. It was not until a year later that I learned what had been settled on that momentous day, the July before. This I first got from my Swedish diplomatic friend, referred to in last month's article. Afterward it was a matter of common gossip. The story was that Russia had played upon France to make agreement whereby the French people were to lend $100,000,000 to Russia; to begin intensive war training of her citizens, and to make such other preparations that by 1915 she would be at her maximum of power for war. Russia was to expend the French borrowings on railways, up to, and along, the Russo-German frontier and to make other preparations. By July, 1915, they would be ready for any emergency. Remember, this was not the Russian Government of to-day. This is a story few people in this country are inclined to believe, and there is not space in this issue to give more details. In the meantime, in further confirmation there is on record the report of a British officer written from Bulgaria in 1912-13; where he says "everyone knows Russia and France are getting ready to attack Germany."

Germany evidently heard of the agreement, for a few weeks after she began the preparations for this war. There was no secret about it. The tremendous increase in her taxes, for this purpose was known everywhere. But our weak, helpless, impractical Imperial Statesmen did nothing to avert or prepare for the coming struggle.

From Berlin in 1912 I went to Karlsbad, Bohemia — my European objective for some years. The Bohemians are a simple, delightful, very hard working people, in, but with no sympathy for, the war. Along with my second-in-command and a number of my N.C.O.'s and men of that splendid little corps, the 17th Canadian Hussars, I had fallen a victim to typhoid fever in 1901 at Pt. Levis, where we had been sent for escort duty to meet the present King on his official tour of Canada. Ice taken from a local pond carried the germ. Karlsbad has for hundreds of years been, not only the greatest human repair shop of the world, but, is the one place, where the after effects of typhoid are most successfully controlled. The radium-bearing waters when drunk, inhaled, or bathed in, have worked wonders on suffering humanity.

A CLASH WITH THE KING OF BULGARIA

That year I had two interesting experiences with an important bearing on subsequent events. I did not properly understand them then.

Baths are usually engaged for the same hour each day. It is important to be on time to avoid encroaching on the bather who follows. One day I was kept waiting over fifteen minutes. It was particularly exasperating as I had an engagement which necessitated my shortening my time. When the offender came out, I saw he was a newcomer; and to avoid further delays, I told him, as politely as possible, that it was the practice to be through within the hour. Much less courteous than I tried to be, he told me he did not appreciate my information. Then we both got angry, and continued to call each other names while I undressed, and until I slammed the door and jumped into the bath. When I came downstairs, I asked the Bohemian girl, who arranges the schedules and sells the tickets, and who I had long ago learned was a very excellent clearing house of general information, who the offensive bather was. She said he was the King of Bulgaria, and she further explained that he took a month's "cure" each year and always insisted upon that particular bathroom from 10 to 11 a.m. I suggested that she warn him. Next day, though I was early, the bath was vacant. Again I had recourse to my little friend. She said the King had been recalled in great haste, because of some political trouble at home. She thought it very strange as he had made all his plans for a month's stay.

The trouble was the Balkan war, which began a few weeks later. Whether the Paris agreement precipitated it, I do not know, but it is a fact that the primary manipulator was a nervous, restless, dyspeptic Irish schoolmaster, who, broken down in health, dropped into Bulgaria, seeking it. Like the American, in Rev. Dr. Hanay's "General John Regan," things were too quiet to suit him; and he just naturally drifted into local politics. He got King Ferdinand going, but his Prime Minister would not let him start anything for fear of Greece. The Irish schoolmaster told him not to worry, he would fix that. He took the first train to look over Greece, found Venezelos, an able, ambitious, rising young politician, living in a little island and quite unknown. Like an illustrious character in Biblical history, the Irish schoolmaster took his victim up into a high mountain, and pointed out country that might be his. The inspiration worked more successfully than the irrepressible schoolmaster's best dreams. Back he rushed to Bulgaria and suggested a scrap with Turkey. I would like to add—and I am writing from memory—for the information of any of his old boys who may possibly read these lines, this Irish walking delegate was J. D. Bouchier, and he was classical master in a famous English public school.

Among my most valued acquaintances is an Austrian banker — a Jew. His name is seldom heard outside of Europe; but one of the great international bankers told me that in his grasp of the financial situation he was regarded as the soundest man in Europe. The Canadian Pacific had begun that year, the running of an observation train in Austria. My friend was unusually interested, not in the C.P.R., but in the Grand Trunk and the Canadian investment situation as a whole. He asked many questions. I remember telling him that as long as the control of the G.T.R. remained with such men as Sir Rivers Wilson it would be unwise to put any money in its securities; but that, under capable management with a Canadian directorate, with politicians letting it alone, its underlying securities ought to be safe and should improve greatly in value. I saw that he was deeply impressed. I had given him fully fifteen minutes straight talk that morning, as we were climbing up over the mountain's path on our way to breakfast in the valley on the other side; and I thought it was time he reciprocated and told me something. He was a very quiet man, always under perfect control. I have seen him entertaining at dinner without saying more than a few words all evening. I asked him to tell me, what I most wanted to know. What was on the other side of the stone wall, that always stopped my inquiries, as to what was ahead of us financially. He stopped, turned on me suddenly. He became excited. He was dramatic, impressive. He seized me by the lapel of my coat and almost hissed: *"The outlook is very, very bad, we are going to have a severe money stringency."*

As quickly he regained control of himself. He had given me the information I sought. I had absolute confidence in him. He had passed the excitement on

to me. I had learned something of the greatest importance.

Shortly after I conveyed the information to our readers in the columns of *The Financial Post*, August, 1912, I think. The article urged immediate preparations for strenuous times ahead; to collect and save; to stop borrowing; to stop extensions to buildings and plants. It was decidedly unpopular. It was against the preconceived opinions and wishes of our readers. The stringency came sure enough. It hit our real estate friends very hard. But, we of the business and financial press, are the specialists in journalism and are paid to give the real facts, as far as we can get them, whether they are favorable or otherwise to ourselves or our readers. In these times, particularly we gather and publish many unpleasant truths.

It was this same Austrian Jew, who, in Berlin, on July 25th, 1914, gave me the first definite, accurate, information that a general European war was certain, that only a miracle could stop it; that he, with others, were then engaged night and day doing all they could to turn aside such a fearful catastrophe. Further, he said he did not see how we, the British, could keep out of it.

I had promised, my next door neighbor, Sir Henry Pellatt, to cable him personally if I got any definite news on the situation. I wrote, "Outlook very bad; general European war certain." On my way to the office of the Adlon Hotel, with the message in my hand, I encountered F. W. Wile, whose series of articles on Germany appeared some years ago in *MacLean's Magazine*, and another acquaintance, the head of a Franco-American banking house, and we all sat in the garden to discuss the situation. They were more optimistic. The Kaiser was in the wilds of Norway, where he would not have gone if any crisis was imminent. Von Moltke was at Karlsbad. As a matter of fact he returned that day and the Kaiser the next. A few nights after, I said goodbye to Wile and I left for Ostend. Twenty-four hours later Wile was locked up in Spandau with a battered head inflicted by the Adlon's *maitre d'hotel*. Wile was supposed to be English, but proved he came from Indiana and was released about four a.m. by U.S. Ambassador Gerard going personally to the fortress and carrying him off in safety.

My cable, slightly amended, was given to the operator, who insisted on charging 75 cents a word to Toronto. Some later cables I sent from outside the hotel, and was charged much less. On inquiry I found that the only rate they knew at the Adlon was to British Columbia. To them Canada was B.C., for to B.C. went many cables from Berlin. Our old friend Baron Alvon Von Alvon Sleben, of Vancouver, I had learned in Berlin the year before, had made millions for the Kaiser and others in the Court Circle. One young man was pointed out to me who had come home with $4,000,000. Many of their cables had gone through the Adlon's operator.

Just after I had completed this article, I read that Sam. Carter, a socialist-labor leader, who represents in the Ontario Legislature, one of the most important manufacturing and farming constituencies, in a public address said *that we should form a war cabinet of five or six of our ablest business executives to organize and conduct our affairs.* Mr. Carter's speeches remind one of Lloyd George. He seems to be a man of superior ability and independent thought. He said he was born in England, brought up in poverty, hates war; but we are in and can't help it, and the shortest and most effective way out is to give the job to the men who know how, not to the present politicians.

Last week, chatting with one of the most successful Montreal financiers, a man who has made an international reputation among bankers and industrial leaders, he said exactly the same thing to me. He spoke for the so-called big interests.

Here we have two extremes in the life of our country. Their opinion is worth while. They are in perfect agreement. They show the Prime Minister—now in complete control of our national affairs—the way the country first wants him to go, the way he would have taken long ago but for the helpless associates a party government system forced upon him.

Professional politicians do not know how to deal with the public. Could anything be worse than the Quebec conscription situation which may develop, unless firmly and tactfully handled, into the most dangerous that has ever happened in

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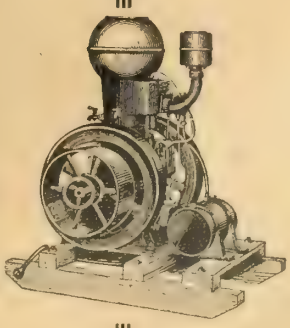

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Canada? It is the direct work of small politicians. Suppose that, instead, our national affairs had been directed by big business men like the tactful Irish Roman Catholic Shaughnessy and that dictatorial, but extremely able, Methodist Flavelle! Let us have expert leadership and we increase the hope of defeating Germany and of arranging such a peace as would ensure Canada becoming one of the most prosperous countries in the world. If we don't the outlook is too gloomy to contemplate. Our soldiers are doing their share for Canada and the Empire gloriously. Our leaders at home are doing their work damnably. Will they, by their neglect to call in experts, forfeit the aims for which our young men are shedding their blood?

THE MISSION OF FARM MACHINERY

Continued from page 15.

machines. Our exports of agricultural implements from Canada, which were valued at 28 million dollars in 1914, shrank to a little over 7 millions in 1915, then rose to 13½ millions in 1916 and so far for 10 months of 1917 have come back to about the 20 million mark. Of course figures are somewhat misleading as to volume owing to the enhanced prices to-day. Prices have advanced considerably and are due to advance more. Already I would say fully 20 per cent. has been added to the ante-war prices. This is inevitable. Raw materials are contracted for by the implement man many months ahead. These materials have all advanced in value by leaps and bounds. Take the case of steel. The big end of it comes from the U.S. Roller steel that was formerly $1.25 in price, has gone up to $4.25 an advance that means something in the implement business. It is hard to tell where costs will go to.

Should the government make a more systematic move towards spurring up production of farm machinery? Should greater activity be shown in this regard, since it is patent to everyone that the assurance of food supplies is as assertive as munitions? Ought the government to mobilize the tractors and put an army of them to operation in preparing the land for the production of grain crops?

SHOULD WE MOBILIZE TRACTORS?

These are indeed questions worth considering. Mobilizing the tractors might help if the fellow at the head were a capable man. Much depends on the man. As far as secondary machinery is concerned, the harrows, plows, and discs, can be fitted to them and these can be rushed out by our plants in sufficient quantities if the need for them is certain.

To carry out a big plan of increasing farm implements, will demand considerable machinery for such factories. At the nearest time it takes from 3 to 6 months to get delivery and these at very high prices. Recently a special piece of machinery was needed for the works that I am particularly interested in, and delivery was made in 90 days. But prices are very high and it is practically war munition figures that set the pace. Labor has to compete with Government orders and all raw materials are slow in being secured because of the shortage of labor.

ACUTE LABOR SITUATION

So far the labor situation has been acute in Canada. Our works are not running over 75 per cent. capacity. Some shops are not opened at all. Our factories in the U.S. have been running normally, yet Canada will furnish implements up to 90 per cent. of the demand and that is normal. Manufacturers have to rely on the estimates sent in from their field men, as to the probable requirements for the incoming year. These men estimate from known orders and probable needs as seen on the surface. The farmers, as a rule do not place their needs far enough in advance to allow for the production. Raw materials are purchased on a possible output for the incoming year. Should a sudden situation arise demanding unusual supplies as for instance the demand for hayforks and hayloaders last year, the machinery men would soon be speeding up their works.

Again I feel that the future is going to put a strain upon our capacity for supplying world needs in machinery such as the past has not witnessed. Even now, should the call come for the putting in of a few million acres of raw lands into crop next year, the implement supplies would not be forthcoming in time to make 1918 tell unless the move is made now. The manufacturers of farm machinery will produce if they see any outlet for the product. For machinery, we must have in a short-handed or one-armed world.

MAKING 90 ACRES RETURN $10,000

Continued from page 20.

ments,—running water, bathroom, furnace, etc.

Did I attempt to tell of all the interesting things of which I took note at Hillcrest, this article would be a long one. When the time came to leave I was introduced to the latest addition to the farm equipment, the farm car. I have had several rides in that car since and I know just how it has added to the enjoyment of the whole family. The family? Yes, Hillcrest farm like every other successful farm, is a partnership business and Mrs. Brethen has played and is playing an important part in her husband's success. And after all, is not this opportunity for real domestic co-operation one of the greatest advantages of country life? I think it is. Perhaps too this co-operation can be developed to the greatest extent on the farm of moderate size.

UNITED GRAIN GROWERS, LIMITED

Continued from page 8.

able management of Mr. Rice-Jones, the Alberta Co-operative Company has been exceedingly prosperous. In the year ending August, 1916, the Alberta company made a wonderful record in the volume of its grain business. It had 87 elevators in operation that year, and over 205,000 bushels on the average were passed through each of them during the crop season. The profits to the company in that year of 1915-16 amounted to $282,000 on a capital investment of less than half a million dollars.

The United Grain Growers, Limited, starts its career in a strong financial condition. Its annual business turnover in all departments this year will exceed $100,000,000. Its future, if the next ten years prove to be even as satisfactory as the past ten, can hardly be estimated. *The thing to remember, too, about this whole wonderful institution is that it belongs to the farmers themselves. It is their corporation, designed to serve them, and to meet their needs in every possible way.* Co-operation amongst thirty-five thousand farmers has built up an institution in ten years which is worth at least in dollars and cents a full five million dollars. "In Union is Strength" was the motto under which the pioneers of this movement conducted their campaign. The future of the new corporation will depend entirely upon a continued adherence to that truth.

Shipping Raw Furs

Correct packing of furs is very important, as no matter how good the furs are, they do not look right when shipped in a dirty mishap method. My favorite method is to use a sack that is free from holes and clean, the furs are sorted as to kinds, tightly tied together and an invoice or inside tag placed inside stating number of furs, kind, etc. The bag is then sewed up—not tied—and several tags tied or sewed on in divers places outside so as to be conspicuous or in case one gets torn off. Do not roll the skins, but pack flat, except large skins, which it may be necessary to roll; neither place one skin inside of another to allow any chance of there being a mistake. Do not ship in boxes or barrels as they are cumbersome and unhandy and not only this, but they increase the express charges. When shipping furs by mail it is, of course, impossible to sew them, as all packages must be opened for postal inspection, therefore, simply tie, mail parcel and ship by parcel post. Fair sized bundles up to eleven pounds can be sent in this manner. Skins having a distinct odor cannot be shipped by mail, neither can they be expressed if the agent says not, but they can be sent by freight. Your postmaster will be glad to give you rates of postage to various points, and it is sometimes much cheaper and much handier to send several mink or other furs by mail than by express.

Cleaning Wall Paper

Perhaps everyone does not know that there are patent preparations which will clean wall paper very successfully. One kind comes in the form of powder and is mixed to the consistency of putty by adding water. The paper is rubbed clean with this preparation and if not too badly stained or faded, it will look like new. Papers should be spread on the floor to catch the particles which rub off, for if stepped on they are hard to clean up.

Sometimes a mass of soggy bread can be used for the cleaning, but it is better to prepare some dough which contains no shortening, to avoid getting any oil on the paper.

Some badly stained and faded plain ingrain paper was cleaned by washing. A big paint brush is needed. Clean dust off paper, then dip brush in warm water and brush over surface of paper. Be sure that it is all wet evenly. When dry the paper will look almost like new. If not sure of your paper, it would be well to try a small inconspicuous place first to test out the method to be sure that it will work on that particular kind of paper.—Nellie M. Killgore, Colorado Agricultural College.

"I appreciate the FARMER'S MAGAZINE more and more."—British Columbia, W. W. Mooney.

Remodelling Clothes

There are many articles of clothing that it would be a waste of time to try to make over, but at the same time it is a needless extravagance to cast aside garments that are only slightly worn or that one has simply tired of.

The present style of skirts, with a tendency toward narrowing, makes the remodeling of last season's wide skirts an easy matter, and the resulting garment does not have the "patchy" look that was apparent when the narrow skirts were made over into wide ones.

Often just the changing of a girdle or a yoke with perhaps a slight modification of shape of material, will make a waist seem almost new. By simply replacing the small, rounding collar with one of the large ones so good now, a dress may be changed almost past recognition.

The wide use of plain and figured materials in one dress gives an almost unlimited scope in the making over of old clothing.

Skirts can be lengthened by letting down hems and adding false ones. Where these are put on with a plaited frill or a cord at the top, they really add a decorative touch to the garment. Skirts of wash material may be lengthened by setting in tucked bands with embroidery or lace insertion. Care must be exercised in this case to place the bands well in proportion to the length of the skirt.

Often old material may be dyed before being remade. It is easy to dye light colored materials a darker color or any material a shade darker. More than this the amateur should not attempt. Often old laces may be dyed to match the shade of a dress and thus treated, they add an air of elegance to the dress.—Beryl Dixon, Colorado Agricultural College.

The Watcher

She watches through the eve for one
We know will ne'er return,
Though on the hills he loved the fires
Of countless sunsets burn.

The road of day becomes a path
Of dreams beneath the moon,
And o'er that path her heart seeks him
From singing June to June.

The winter whirls the autumn leaves
Before his gusty breath,
Spring comes to prove to simple lives
The vanquishing of death.

She watches from her chosen place
The roses bud and blow,
The winter seals the garden's lips
With clinging bonds of snow.

She hearkens for his joyous step
Beyond the kitchen door;
She listens patiently to hear
His voice that speaks no more.

We in the village touch our brows
When one would ask of her;
And bitter lips could speak no name
With accents tenderer.

Amid our changing lives and days,
The briefs and joys thereof,
A comfort sweet we find in her
True faith and changeless love!

—Arthur Wallace Peach in the Springfield *Republican.*

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THE FUR MARKET

Some Ideas About The Traps And Trapping Of Fur-Bearing Animals

Preparing for the Fur Season

By ROBERT HODGSON

WITH the coming of November, the old rusty traps are pulled down and all the outfit is generally well looked over to see that everything is in good order for the fur season.

Perhaps some anxious trappers are already busy after fur bearers in October but this is wrong as one prime skin is worth a half dozen unprimed ones. It used to be generally believed that any month having "R" in it was a trapping month and it originates from away back and Mr. Newhouse in his old edition Trapper's Guide recommends this but it should not be done.

Muskrats in Ontario cannot lawfully be trapped until the 1st of December and are not really prime until spring; mink the first of November when they are prime; and for skunk, coon and fox, there is no season but they can be lawfully captured at any time which is a great mistake. Weasel, skunk, coon and fox all become prime around the 1st of November and should never be taken before this date, neither should skunk be dug out as no doubt you are aware a skunk seldom if ever makes his own dens and when the old ones are spoiled by digging them out, the remaining ones are going to move to some new neighborhood where you will not have an opportunity of securing them at all.

Oil your traps now but do not use machine or other such oils—get some goose oil, repair the chains or other parts of traps, make your stretching board and begin to get things generally ship shape for the season. If you think you can handle more traps or some of your old ones are about done, by all means buy them as they are not expensive and may repay you greatly in the furs secured. The No. 0 size is for weasel, rats, etc., and you will have no use for it as you can set the No. 1's for weasel. The No. 1 is used for muskrat, but when trapping, where they cannot drown themselves, I would advise a No. 1½ which also is large enough for fox, coon, mink, skunk and such animals. Besides this, it has a higher jaw and will, therefore, catch the animal higher on the leg.

If you are intending making snow sets, boil your trap in lime, put a goodly quantity in a pot of water and bring to a boiling point, stirring up well so as to make a perfect "paint." Now dip your traps in this, one by one, and allow to remain in same for several minutes and then hang up free from dust to dry and be careful as this "paint" easily rubs off.

When trapping for fox, mink, etc., it is a good plan to bury traps in the barnyard, manure or in black dirt for a week or in a liquid made by placing bark in a pot of water and allowing it to boil for an hour or so, and walnut husks can be added to this as it gives them a very natural color and a coating to be desired.

How many of you fellows have been convinced that mink are afraid of human scent and to handle your trap with gloves, etc. Mink are not afraid of human scent which I could readily prove but I have not the space but they are suspicious of unnatural surroundings and so in making your sets do not disturb the ground any more than is absolutely necessary and leave the things looking as near as possible as they were when you found them. It is hardly possible to give various methods in a short space and so I must leave this out but anyone who has any knowledge of fur bearers or who is desirous of capturing them, can find and make successful sets. No one or two or several favorite methods will work in all localities and while I might give a good set for a certain fur bearer in the hollows or the woods, that would be worthless in a more rocky country. Therefore, *study the animal's habits* a little and the methods will come as natural to you as you would to a dinner bell.

Do not try to secure all the fur bearers in one season, leave some so they can breed and have plenty for the following season. It is not advisable to do much trapping in the spring for anything except muskrat as the fur is of poor quality and you are rapidly decreasing your supply as a female fur bearer when opened up is usually found to contain several young.

Be honest in trapping, and not take furs, traps, etc., as this is a common rule among many young trappers especially and hardly gives them a good name when they cannot keep their hands off others' property. A farmer's son trapping on his own land does not require a license to trap but if he traps on others' land, he must have a license and in hunting any fur bearing animals not on his own land.

Preparing and shipping the furs is the most important part of securing pelts as while many are successful in catching animals they are not careful enough in skinning and stretching after they are caught, and for this reason lose a great deal of money in this manner.

Now, for instance, when you find burrs, dirt, etc., in a skunk skin do you ever get a coarse comb and comb it all out? No, as a rule, you do not and when you sell them you are going to get docked for having your furs in that condition. It pays to clean the fur of such animals as also mink, muskrat, etc., and when you have a drowned animal in your trap take it by the head and shake all the water you can out of its pelt, and after skinning again shake—especially mink—as hard as you can, holding by the head. This does three things to be desired and at one and the same operation: Shakes out the water and dries the fur; puts the fur in a fine fluffy appearance and makes it stand upright instead of flat; will stretch the hide lengthwise, not crossways, as crossways is not so important as the length, and a skin should never be stretched

wider than long—accordingly. The knife is very important, and without a sharp knife you are going to make a mess of the hide. Therefore, buy a good knife for this purpose, if you have not already got one and keep it sharp. Then, again, a sharp knife in the hands of an amateur is apt to cut the hide, but such will not be the case if caution is used.

As soon as you have skinned the animal place the skin on some smooth, round object, such as a pail, and with a dull hatchet or old knife scrape off all the fat and flesh not meant to be there, and be careful not to run the knife into the hide.

Muskrat stretchers are usually made out of shingles, and the British Columbia shingles are, of course, the best, as they are extremely wide and can easily be cut down. However, it will pay to buy the new stretcher, as they are cheaper than shingles. Two hooks are used to hold the skin in position, which automatically lock in any position on the wire and there is no bothering about the width of your furs, you stretch them as long as you can and the width will take care of itself. Besides this there is a hook on requiring no boring of holes to hang them up by, they dry far quicker then when on a wooden stretcher and no freezing and sticking of the skins to the boards which, as you know, means splitting the boards to get the skins off.

Never shoot an animal in a trap unless absolutely necessary as it makes a hole in the skin and smashes the bones all to pieces so you can hardly skin them. The best way is to hit them a smart tap or two on the nose. If you hit them on the head or body you will find a great mass of blood where you hit them. Also avoid getting blood on the fur, but in case you do it can be removed by soaking a piece of cloth in gasoline and rubbing repeatedly down the fur and not against it. Be careful and do not work too near the fire.

Be sure and visit traps often enough not only on account of the pain the animals must endure when trapped, but to keep from getting tainted as well.

Unless you intend tanning the skins yourself never put salt or other preparations on the skins as dealers do not like it, but it is alright to put a little salt in foot or tail where it may be slow in drying. Do not dry skins in the sun or by a fire, it is apt to hurt the roots as well as the fur. Dry in an airy, shady and dustless place, not allowing one another to touch for fear they become mouldy.

Mink, weasel, skunk, muskrats and fox should be cased. Raccoon should be taken off open and stretched as nearly square as it is possible to make it. Some dealers prefer skunk fur side out and some fur side in, and so this is immaterial, but if you stretch it fur side in, it, like the fox, should be removed from the boards before they are too dry and turned fur side out.

All price lists are gotten out for average lots of furs as there are more poorly prepared furs for market than there are furs that have been correctly skinned, fleshed and stretched, and no matter what a firm quotes in their price list you will always find they are only too glad to pay a little more for correctly prepared hides. Another thing worth noting is the No. 1 extra large you see on so many price lists. You can knock this off, as rest assured you are not very apt to get this price, as there is not one skin in a hundred will bring this grade. Another little thing in regard to price lists is—you can only get a No. 1 price for a No. 1 skin.

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A view of a part of the grounds of the Canadian National Exhibition.

An Agricultural Investigation

Exhibits at the Canadian National Exhibition Help the Farmer to Buy Intelligently and to Get Pointers on His Power Needs on the Farm

PERHAPS in no preceding year were the visitors to the Canadian National Exhibition more interested in power and labor-saving machinery and appliances. Particularly was this true of the farm. And the exhibits of power machinery were never better.

Those farmers, who came to see, were not disappointed. The exhibits of gasoline engine power, electric power, and horsepower outfits were large and varied. Tents of every description dotted the open squares. Busy salesmen had their line shaftings in place and all the latest methods of getting power, illustrated as never before.

The increased interest in power farming was a striking feature of the attendance. The day of the gasoline engine is only beginning, said one manufacturer. The way farmers have purchased engines during the last five years is only the first wave of the big sea of orders that will come in, as they realize the labor-saving, money-making possibilities of more farm power.

Farmers have been big buyers of motor cars this year. Prices have been good for all their produce, and while labor has been high and hard to get, the returns are gratifying. Men do not mind hard work, if there is some decent remuneration at the end of it.

The tractors, as last year, were out in force. Considerable improvement in designs was to be seen. All engines were in operation, illustrating their short turning and drawbar pulls. The inquiry into the working of the engines and the familiarity with spark plugs, magnetos, batteries, piston rings and compression theories, marks the splendid advance of the age.

Further improvement with a growing interest was particularly noted in the machinery halls, the process building, and in the automobile displays. And farmers are buying automobiles. In many parts of Canada a large majority of the sales are made to farmers who find the car an economic investment and not a luxurious extravagance.

Exhibits that drew great attention included telephone equipment for farm homes, milking machines, ensilage cutters and elevators, gates and fences, silos, tile ditchers, cream separators, farm lighting systems, iron pumps, well-making displays, gasoline engines of all kinds and powers, house-building designs and material, B. C. woods, fisheries, provincial government displays and motor wagons with trailers.

The machinery halls, with their marvelous, almost human movements; the clever ingenuity of the process building exhibits; the splendid creations in the manufacturers' building; the luxury and refinement of travel as instanced in the transportation building; as well as the unequalled display of man's creative genius among Ayrshires, Shorthorns, Clydesdales, Shropshires, Yorkshires, thoroughbreds, ponies, Jerseys, or poultry, these all gave answer louder than platform eloquence of the enterprise and expanding energy of the Canadian people, especially to the rural element.

Readers of the FARMER'S MAGAZINE will find a renewed interest in taking an arm-chair tour over the exhibits. Cameras have been busy, and descriptive pens active to carry forward the impressions made and to hammer home the ideas of saving, money-making, improvement and uplift that these things give to any man who is interested in his business.

And not the least, the reader has a chance to get into touch again with the manufacturer or exhibitor in case he has laid aside the memo he took. As one visitor told us, "I have forgotten where to write for that article exhibited in one corner of the process building, but which I must have, as I did not know it was so easy to instal anything giving such perfect satisfaction as that."

And the farmer has many things to buy. His needs in this highly organized day of the world's history require many other industries to contribute in large orders. This year is a year of big finances. The field crops of Canada this year will total over a billion dollars, while the prospects are for bigger prices on finished goods such as hogs, beef and mutton. And with the cash the farmer feels that he ought to instal many of the things that are on the market to save labor in the house and around the barns. He takes, therefore, considerable pains to review the arguments in favor of the several machines and improvements. And in no way can one contribute to the farmer's ideas than in a real business expression of these goods in these pages.

Canadian Independent Telephone Company, Limited

THE Canadian Independent Telephone Co., Limited, of Toronto, had an exhibit at the Canadian National Exhibition at Toronto this year that, as the accompanying cut indicates, was exceedingly comprehensive and commanded a little more than ordinary attention. The exhibit was confined wholly to telephones, but the interest that is being taken in better telephone service in the home, in the factory, in the office or in the rural communities caused thousands of visitors at the Exhibition to give the necessary time to inspect and examine this exhibit.

For instance, in the exhibit was a switchboard of the Canadian Automatic or Presto-Phone, which is an automatic system designed specially for giving service in factories, Departmental Buildings, etc., where a considerable number of telephones are required. The system will operate up to one hundred telephones without the services of any girl operator. It possesses advantages over any other automatic system designed for the same purpose on the market, and it is the only automatic that is manufactured in Canada. The demonstration at the Exhibition convinced all who examined it that the Canadian Automatic furnishes a quick and efficient service in a very simple and reliable manner. Any person or company requiring an inside system where fifteen or more telephones would be necessary should not make any decision as to the equipment they will use until they have examined the Presto-Phone or Canadian Automatic.

Of interest also to the manufacturers was the Presto-Call, which was shown for the first time in Canada. This is a call signal system operating on low voltage and giving more efficient service than the expensive call signals that have been on the market and giving the service at about one-third the cost.

The exhibit also included intercommunicating telephones and special small instruments for use where the service only requires comparatively few telephones. It did not matter whether you wanted two or one hundred telephones on your inside system, the Company had special types of telephones to take care of your wants.

A very important section of the exhibit was given up to equipment for rural party lines, including wall and desk magneto telephones of different types, and a very up-to-date switchboard. The Canadian Independent Telephone Company has been closely identified with the development of the local rural telephone companies throughout Canada and has made a special study of the needs of these local systems. They have assisted in the organization of the systems and have been generally closely identified with the movement. Their magneto telephones have built up a reputation for themselves, and the Company reports that this year they have had a remarkable business, especially from the Western Provinces.

As Canadian manufacturers developing the very highest type of telephone equipment the Canadian Telephone Company is certainly entitled to the greatest credit, and no manufacturer or rural telephone system should purchase their equipment without investigating what this Company has to offer them. It is also a matter of satisfaction to know that a Canadian company is equipped with engineers capable of developing and improving telephone equipment to the extent shown by the products that composed this exhibit.

The Company has a well equipped factory at 263-265 Adelaide Street West, Toronto, and they solicit communication from any one requiring telephone service. They have Bulletins and printed matter that will be gladly mailed free to any one asking for them.

En-ar-co Products

—En-ar-co National Motor Oil
—En-ar-co White Rose Gasoline
—En-ar-co National Light Oil
—En-ar-co Black Beauty Axle Grease

Give the Farm the Profitable Efficiency of a Modern Factory

The farm of today has the importance equal to that of great factories. And in serving the nation's needs, both produce a profit in ratio to the efficiency of each separate unit.

Machinery represents a heavy investment. Its continued operation requires additional money. If either farm or factory is to be successful, this invested capital must produce dividends.

Reduced operation costs, lower depreciation and increased output are the things that count big when profits are figured.

There is where En-ar-co Products meet the most exacting farm requirements—*your* individual needs.

What En-ar-co Products Will Do for You

They give your machines longer life and greater operating power. That means less expense and greater income. It means profits!

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Proved highest quality by long years of practical tests and use under varied conditions. Lubricates perfectly with least carbonization. Will give perfect satisfaction in any make of tractor, automobile, motorcycle or gas engine. Try it.

En-ar-co White Rose Gasoline

A pure, dry, homogeneous gasoline that produces the power you have a right to expect. Always uniform in quality. Insures continuous power—a silent, flexible power that means more mileage per dollar for auto or tractor—more productive energy for gas engines.

En-ar-co National Light Oil

It gives your home a cheerful, clear light. No odor, charred wick or black chimney. It produces a steady, even heat for oil heaters and cook stoves. It maintains uniform heat in incubators and brooders, insuring the hatching of every fertile egg and nature-heat for the chick. National Light Oil is the most economical fuel for kerosene powered tractors.

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It is the woman of the family that suffers most the fatigue and inconvenience of too small a car—her's the self-denial if too great an expense is shouldered in operating too large a car.

The thirty-five horsepower Overland Model Eighty-Five Four is roomy enough to be perfectly comfortable—to ward off fatigue on those long trips which should be of such healthful benefit to the whole family.

It has big, comfortable seats and cantilever rear springs that make it easy riding.

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And in the building of this beautiful Overland there is no hint of experiment, no construction extravagance.

For years it has outsold all other cars of such comfortable size, and produced in larger quantities, it is more inexpensively produced and sold at a lower price than would otherwise buy such comfort, style, reliability and quality.

Its purchase is dictated by common sense and the practice of true economy—it will be a great event in your life. See the Willys-Overland dealer about it now.

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But our mammoth production and manufacturing efficiency enables us to sell the Chevrolet Four-Ninety A at a price much lower than its value when compared with other makes of cars.

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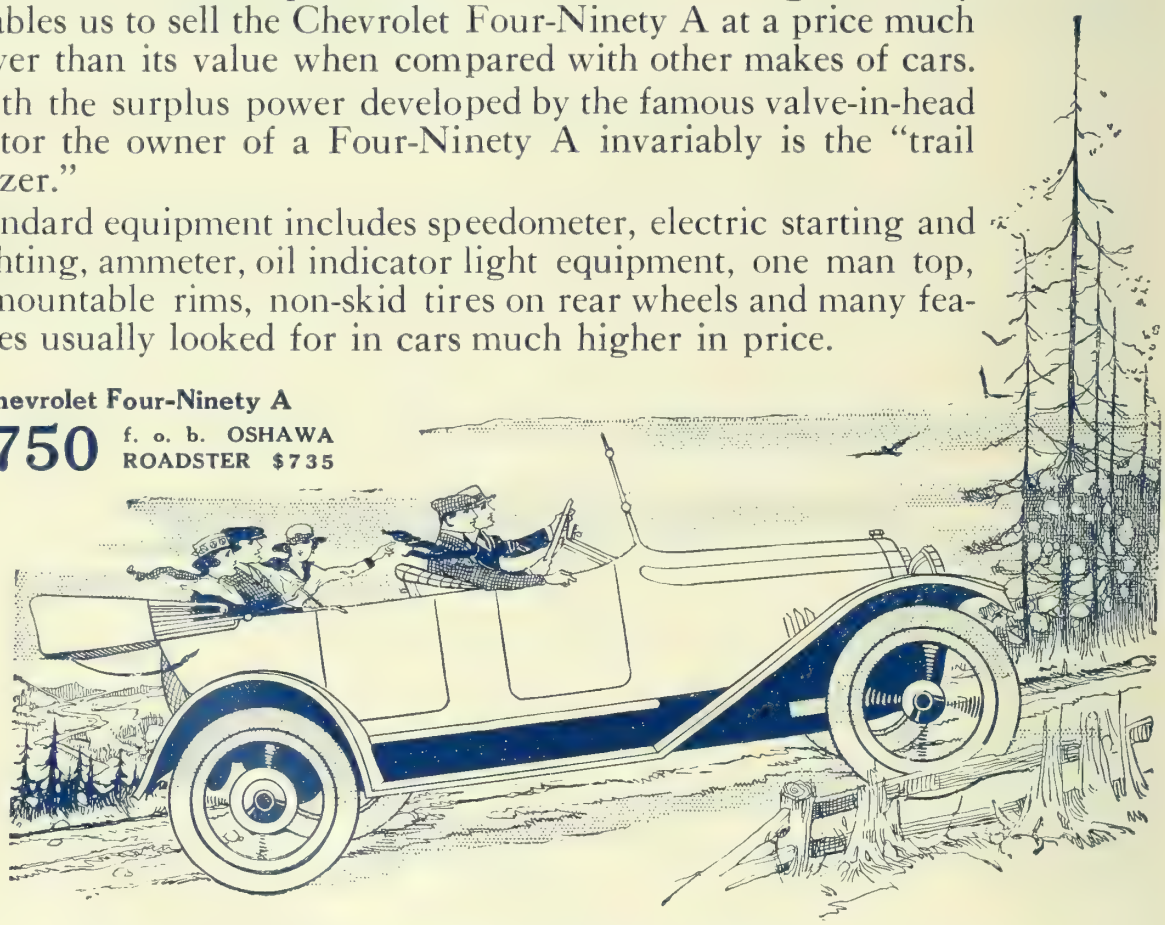

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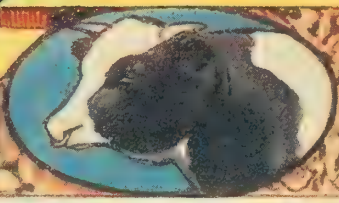

Raise More Sheep
Money-Makers

JAN
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MAR
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SALE OF WETHERS

SHEARING

LAMBING SEASON

SPRING DIPPING

SPRING SALE OF LAMBS

SALE OF WOOL

FALL DIPPING

BREEDING SEASON

One Million More Sheep Are Wanted in Ontario

The Ontario Department of Agriculture is anxious that more farmers go in for sheep raising and offers suggestions.

Ontario now possesses only two-thirds of a million sheep, and we should have at least two millions. Owing to the world-wide scarcity of sheep and the abnormal demand for mutton and for wool, there should be good profits in sheep raising on a larger scale in Ontario. The breeder should keep all his good ewes and see that surplus good breeding stock does not go to the butcher, but to his neighbor for breeding purposes. The highest-priced mutton and the best breeding stock come from the United Kingdom, where the sheep are in the greatest numbers compared with total farm acreage.

Practically every farm can raise some sheep. Start with a few and work up. Sheep are hardy and require no special or extensive buildings. Freedom from drafts and dampness and a little extra warmth at lambing time are all that is needed. As weed killers you can't beat sheep—they are money makers in this way alone. Roots, turnips preferred, and clover or alfalfa hay during the winter, and summer pasture in May, June and July, then pasture and rape until November 1st, or even later, are the simple feed requirements.

The illustration above shows the methods generally adopted, month by month, in the raising of sheep. For further information about breeding, docking, dipping, shearing, sale of lambs and wool, or for any other particulars you would like to have, write the Commissioner of Agriculture, Parliament Buildings, Toronto.

THE SHEEP WORLD HAS ITS PLEASANT MONEY-MAKING ACTIVITIES EVERY MONTH IN THE YEAR

A copy of the "Shepherd's Hand Book" with description of breeds, and breeding tables will be sent on request. Report of Co-operative Wool Sales in Ontario will shortly be issued. Send in your name for a copy.

SHEEP POPULATIONS

AUSTRALIA	83
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
CANADA	2

ONTARIO

ONTARIO DEPARTMENT OF AGRICULTURE

SIR WM. H. HEARST, Minister of Agriculture

Parliament Buildings, Toronto

DR. G. C. CREELMAN, Com'er of Agriculture

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Old age is a sign of cell deterioration—there is no excuse for cell deterioration at any age. I can prove to you that old age at 30 is a disgrace, old age at 40 is a crime, old age at 50 is a nightmare, old age at 60 is a horrible state, old age at 70 is pitiful, that old age at 80 is the result of ordinary living.

NO MATTER how young you are in years, if you are beginning to feel *old* in body—no matter how old you are in years, if you do not feel *young* in body—if you are not superior to other men regardless of your age or theirs—I know that I can easily, quickly and positively prove to you that you are living an inferior life—that you are not realizing half the joys and benefits of living in full—that you are getting infinitely less than your full share of life and pleasure, that you are militating against your own earning power, your success—that you are only half as well as you should be, half as vigorous as you can be, half as ambitious as you may be and only half as well developed as you ought to be, in mind and body.

I can prove to you that old age at any age is impossible when the cells are consciously cultivated so that they maintain their activity, energy and thoroughly alive condition.

There Is No Fraud Like Self-Deception

If you are not entirely successful every day of your life—if you are at times dominated by others—if you are afraid of anything or anybody, if you are listless—if you are beginning to have aches and pains in your stomach or liver or heart or kidneys—you are deceiving yourself unless you admit that you are beginning to grow old.

Unless your body in every department, including the mind, is capable of withstanding abuse without distress, you have no real youth, you have no real physical and mental power; you have but negative health—you are well by mere accident. I can prove to you that the Swoboda character of health youth and vitality will enable you to enjoy conditions that now distress you. I can prove to you that I can revitalize, regenerate and restore every part of your body to its normal state, that I can create in you the type of mental and physical super-efficiency that you never before dreamed was possible to you. I can prove to you that I will do this without use of drugs, medicines or dieting, without weights, exercises or apparatus, without violent forms of exercise, without massaging or electricity or cold baths or forced deep breathing—in fact, without making you do anything you do not like and without making you give up anything you do like. Moreover, I can prove to you that I can make you feel stronger, more vigorous, energetic, happier and more contented after the first five minutes.

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I do not merely promise you youth, health and energy to spare—I guarantee it. I know what Conscious Evolution will do for you because over 260,000 men and women of all ages from 17 to 97 have practiced Conscious Evolution and the reports are simply astounding. There is no excuse for you to accept old age or ill health. There is no excuse for you to accept an inferior condition of vitality, energy, health, memory and will power. There is no excuse for you to be easily tired, run-down, weakened. There is no excuse for you to grow old.

The Swoboda system of Conscious Evolution is no experiment. I am giving it successfully to pupils all over the world, I have among my pupils doctors, lawyers, members of cabinet, ambassadors, governors, physicians, business and professional men, farmers and mechanics, laborers and almost an equal number of women. These people invested in themselves and are making the most of their every opportunity.

My New Copyrighted Book Is Free

It explains the SWOBODA SYSTEM OF CONSCIOUS EVOLUTION and the human body as it has never been explained before. It will startle, educate, and enlighten you.

My book is not a dry treatise on anatomy and physiology. It tells in a highly interesting and simple manner just what you have always wanted to know about yourself.

You will cherish this book for having given you the first real understanding of your body and mind. It shows how you may be able to obtain a superior life; it explains how you may make use of natural laws for your own advantage.

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And Other Petroleum Products

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And there is only one "better lubricant"
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Without lubrication the most expensive motor is as lifeless as the raw material from which it was made. Faulty lubrication will soon return it to its native value—a few cents per pound as scrap. But efficient lubrication will endow it with pulsating life. It will give it an energy that answers to your will and performs the tasks you dictate. An En-ar-co lubricated motor will continue its service more efficiently and beyond the life of motors using ordinary oils.

Uniform Motor Fuel Insures Uniform Power

Power is the "big word" in farm production—
En-ar-co White Rose Gasoline IS Power

Upon your selection of motor fuel depends the motor's degree of driving force. But to be efficient, this force must be continuous and uniform. Just as human energy is dependent upon foods that supply vitality, so is your motor's best efforts dependent upon the vitality of its fuel. En-ar-co White Rose Gasoline is the accepted standard of highest power on thousands of farms to-day.

Farmers who operate kerosene tractors find an equal measure of power in En-ar-co National Light Oil. And because of the satisfaction they derive from En-ar-co unusual quality they select these other petroleum products:

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En-ar-co Black Beauty Axle Grease
En-ar-co Black Star Harness Oil.

En-ar-co Satisfaction May be Yours. Send in the Coupon for Free Handy Oil Can and Full Information on Lubrication and Power Problems.

Plan NOW For Next Season

Get the utmost power from your tractor, automobile, gas engine or motorcycle. Begin to add to the life of your motor. Multiply its operating power. Eliminate carbon annoyances. Use En-ar-co White Rose Gasoline for gasoline powered tractors (or En-ar-co National Light Oil for kerosene powered tractors) and En-ar-co National Motor Oil.

Read This Advice of Farm Experts

No engine manufacturer will contradict the statement that more gasoline motors are ruined by being burned out through insufficient or faulty lubrication, which means lack of oil or the use of improper oil, than through any other cause. In reality, lubrication is the life of the mechanism. Friction must be eliminated to prevent wear, and in no case is this more true than of gasoline engines. Effective service can be expected from any reputable make of gasoline engine if it is properly cared for. Poor results are certain with the best and highest-priced engine that money can buy if the requirements of lubrication are not observed.—
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automobile or tractor and inclose two 2-cent stamps. Send me Handy Oil Can FREE. Please give nearest shipping point in this province and quote prices on the items I have marked.
I will be in the market about
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Give date above.
I use.....gals. gasoline per year.
I use.....gals. motor oil per year.
I use.....lbs. axle grease per year.
I use.....auto grease per year.
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Five Roses★ FLOUR *for Breads-Cakes Puddings-Pastries*

Your folks are well-equipped for work or play when you plan your foods on the FIVE ROSES basis.

Not merely more substantial, it makes bread more digestible. Next to pure milk comes bread in completeness of digestion. Due to the fineness of FIVE ROSES, the texture of all your breadstuffs, cakes, biscuits, etc., is ever so much finer, porous, yielding.

The digestive juices act more surely.

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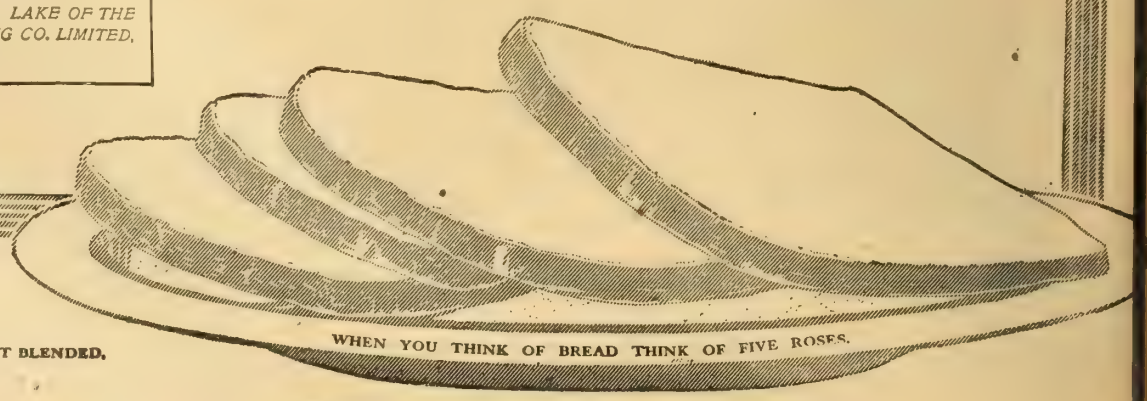

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THE FARMER'S MAGAZINE

JOSEPH MCGOEY - - - - - - - - - - - Manager
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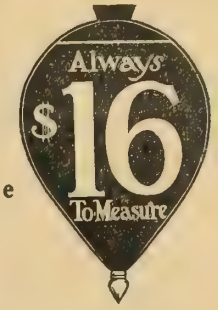

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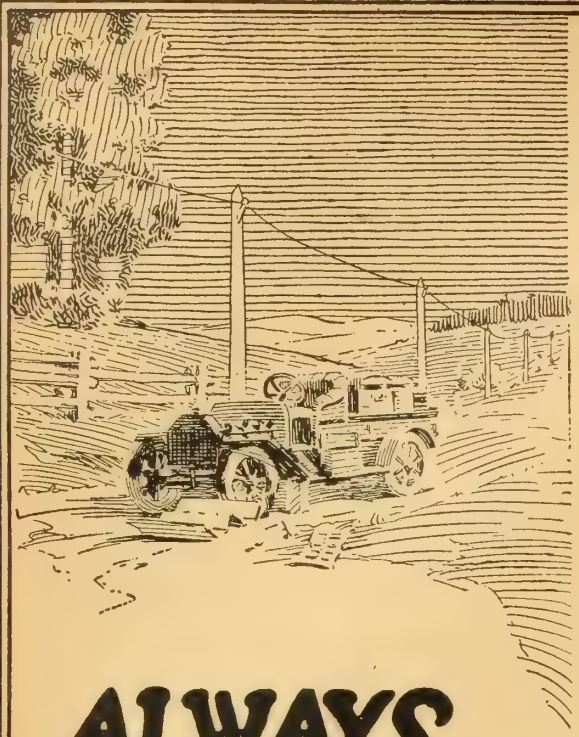

ALWAYS READY FOR AN EMERGENCY

"Is that you, Bob? Well I'm phoning from Bill Parker's place. I got as far as Clover Hill when I developed engine trouble. She doesn't spark properly. I wish you would go to that big box in the far corner of the Garage, pick out a couple of those Plugs marked "Jumbo Molite" and fetch them to me on your Bike. You'll have to hustle because I've only half an hour to get this Milk on the 5.15 train."

¶ That's the way it goes. Just little time saving incidents like this in the every day life of the 130,000 progressive Canadian Farmers who have Telephones, is what is helping to keep the Business of Agriculture at the top of the Nation's Industries.

¶ To the woman on the Farm, the Telephone has proved the greatest boon. It keeps her in touch with her neighbors and the various social activities of her community. It banishes loneliness and creates contentment.

¶ But its greatest value comes in a case of emergency—when time is the greatest factor and the doctor or vet is wanted. The Telephone will reach them quicker than any other known method and it only takes one such incident to make it pay for itself several times over.

¶ "How the Telephone Helps the Farmer" is a Book you should read if you have no Telephone. A Copy will gladly be mailed you without cost or obligation. Clip the Coupon and mail to-day.

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The FARMER'S MAGAZINE

Volume XI TORONTO, NOVEMBER, 1917 Number 1

Cost Accounting Justifies Farm Prices

By THE EDITOR

THERE is a cleavage in the social order. War has warped the whole fabric. And not the least regrettable evidence of the disorder is the divergence of opinion, owing largely to the ignorance of the situation, that is separating farm folk from the urban consumers. Misunderstanding of the farmer's position seems to be widening.

Consumers who are denied free access to food and clothing are the first to form a Coxey's army. They know no economic philosophy save the hard facts of hunger and cold; and when they feel the pinch of high prices their first impulse is to strike at the producer. They fail to see that it is a boomerang they handle. There is no known way to get food cheaper other than by getting out and producing it. Sooner or later the leaving of the land by the people is bound to produce an army of discontents. The only solution is, back to the land. War times only accelerate the action of the law which operates in peace times as well.

Canada is passing through a crisis. Our country is pre-eminently a food producing one. Yet here we have bacon, beef, coal, lumber, clothes, and bread at maximum figures. True, this abnormal situation is enhanced by outside demands, yet a country so prosperous should coordinate its values so well that no one should suffer from lack of bread amid big wheat fields, or shiver with cold on the verge of a coal seam. Why, then, the social troubles that threaten?

There has been a tendency among city people to blame the farmer for the high prices of milk, wheat, beef, bacon, apples, potatoes and wool. Is he to blame? Does he get a fair share of what the producer pays? Let us look at the item of beef alone. The daily market reports quote beef by the carcase at 19 cents a lb. The livestock yards quote 10 to 12 cents for beef on the hoof. For our table we buy steak at 30 cents a lb. Why the difference? And remember, there is little loss to-day on any part of the animal that goes to the abattoir.

Take the case of bacon. We paid 55 cents a lb. for roll bacon. On the farm the hogs are bringing 18 cents. And only the squeal is lost.

—Kirby, in New York World.

Bumping Another Autocrat.

The farmer raises a few apples and gets $3 to $5 a barrel. He pays 50 cents for a barrel, 50 cents express and receives the balance for his work and capital. The consumer in the city pays from $5 to $7 for the same barrel.

The same romance of prices is read in gasoline, boots, clothes, houses, and machinery. The consumer is being bled white. And who is doing it? Assuredly not the farmer, the miner, or the factory worker.

The farmer is getting fair prices in a great many things. He is not complaining; although he is, by no means, receiving the share due to him of what the consumer has to pay.

Let no one, then, assert that farmers are getting rich at his expense. That they are rolling in wealth, that they are profiteers.

Rather should we sum up the cost of producing; allow the business man's overhead in the farmer's work, for overseeing and for management; then perhaps the price for eggs or for butter may not seem so outrageous.

Just here is where the farmer falls down He does not know where he wins and where he loses. He keeps no books. He counts no overhead expense. And he is content if at the end of the year he has any cash to his credit. But that is not business. Consumers may profit by it in getting cheaper produce. When the tillers of the soil wake up, and set prices on the basis of cost, then the consumer will have reason to sit up and discuss, or go back to the land.

Cost systems can be operated on the farm. Some big and some small farms are already doing it. They know the exact figures for producing their crops. Such men can talk intelligently about prices and can carry convictions to those city traducers who dump

Continued on page 69.

These loaves are made of rye flour.

These are made of oat flour.

Other Flours and Why:

By PROF. R. HARCOURT

Is it Always Thrift to Include More Offal in Bread?

FOODS derived from the cereal grains, wheat, oats, barley, etc., form a very large proportion of our diet. This is because they are our cheapest foods and also because they more nearly supply all the needs of the body than any other food we have. On the basis of their ability to produce heat and energy in the body a given sum of money expended on cereal products will go ten times as far as if the money had been used in the purchase of meats and eggs. Or even on the basis of flesh-forming materials the cereal products are four times cheaper. Thus 25 cents will purchase four pounds of oatmeal and less than three-quarters of a pound of sirloin steak or less than one-half a pound of bacon. These differences are clearly shown in the following table:

PROTEIN, FAT, CARBOHYDRATES AND FUEL VALUE OF ONE DOLLAR'S WORTH OF EACH FOOD.

	Price.	Protein lbs.	Fat lbs.	Carbohydrates lbs.	Fuel Value Calories	Comparative Values
	$ c					
Rolled Oats	5 per lb.	2.5	1.36	14.3	36,950	100
Fall Wheat Flour	4 75 " cwt.	2.0	.20	16.0	34,307	92.8
Spring Wheat Flour	5 00 " "	3.0	.20	14.3	33,780	91.4
Corn Meal	5 " lb.	1.31	.25	16.26	33,735	91.3
Farinas	5 " "	1.9	.20	15.6	33,394	90.4
Rolled Oats (package)	25 for 4 lb.	2.00	1.09	11.5	29,560	80.0
Sugar	8 00 per cwt.	....	....	12.5	23,250	62.9
Rice	7 " lb.	1.06	.05	11.3	23,210	62.8
Peas	7 " "	3.00	.19	9.0	23,121	62.6
Farinas (package)	15 for 2 lb.	1.26	.14	10.3	22,207	60.1
White Bread	16 " 3 "	1.58	.38	9.1	21,650	58.6
Buttermilk	10 per gallon	3.0	.50	4.8	17,362	47.0
Skim Milk	10 " "	3.4	.30	5.1	17,070	46.2
Barley, pearl	10 " lb.	.84	.10	7.8	16,492	44.6
Beans	10 " "	1.95	.27	6.0	15,500	42.0
Potatoes	2 25 " bag	.87	.04	6.24	13,397	36.2
Malta Vita	10 " 12 oz.	.74	.10	5.87	12,716	34.4
Toasted Corn Flakes	10 " 12 "	.42	.11	6.06	12,517	34.0
Grape Nuts	15 " 17 "	.81	.07	5.56	12,143	33.0
Milk	8 " qt.	1.04	1.27	1.66	10,402	28.2
Shredded Wheat	13 " 12 oz.	.66	.05	4.42	9,659	26.1
Beef, flank	14 " lb.	1.21	1.36	....	7,970	21.6
Butter	50 " "	....	1.88	....	7,933	21.5
Cheese	30 " "	.93	1.22	1.4	7,138	19.3
Mutton Chops	24 " "	.56	1.20	....	6,106	16.5
Beef, sirloin	25 " "	.66	.65	....	4,000	10.8
Beef, round steak	24 " "	.79	.53	....	3,718	10.6
Lamb, hind quarter	27 " "	.61	.60	....	3,672	10.0
Ham, smoked and cooked	55 " "	.44	.50	....	2,930	8.0
Salmon, canned	30 " "	.78	.30	....	2,716	7.3
Salmon Trout (fresh)	15 " "	.61	.34	....	2,569	7.0
Cod (salted)	18 " "	1.05	.02	....	2,307	6.2
Eggs	48 " doz.	.37	.29	....	1,912	5.2
Halibut (fresh)	25 " lb.	.61	.18	....	1,894	5.1

A study of the above table shows why the cereal foods stand at the top of the list. It is because they contain a large amount of carbohydrates which are the cheapest fuel material in our foods. But it is worthy of note that they also furnish comparatively large quantities of the protein or flesh-forming materials, much more than can be purchased in the form of meat or eggs.

Taking into consideration the above facts we can easily understand why, in a time of food shortage, so much is said regarding the cereals. Among these cereal grains wheat is used in the largest quantities as human food. This is because the proteins of wheat differ from those found in other grains in that they will form gluten, which gives to wheat flour its peculiar bread-making properties. The gluten is elastic and when properly handled in making bread, stretches, allowing the dough to expand and giving the bread its characteristic porous condition. Most of the wheat is consumed in the form of bread and when we remember that our annual per capita consumption of wheat is nearly six bushels, it is not surprising that bread is called the "staff of life," and that any shortage of food should first be manifested in this imporant cereal.

Some time ago the Food Controller stated that according to calculations made by experts in the line America would be 160,000,000 bushels short of supplying her own and her European Allies needs, and this calculation did not take into consideration the possible losses due to the submarine warfare. It is evident that the men in the trenches must have their full supply and that we must do what we can to reduce consumption in order that

Continued on page 78.

Corn flour makes bread like this.

Barley flour produced these loaves.

Co-Operation and International Peace

A Western Grain Grower's Outlook on the Readjustment of Things. Competition vs. Co-operation

By S. W. YATES

IT is natural that in the face of the almost irreparable disaster that has overtaken the world as a result of the present great world-conflict, the eyes of men everywhere should be turned to the possibility of preventing a recurrence of any such calamity in the future. Of all the great problems yet "in the lap of the gods," this seems to me to be the greatest; and in the midst of all the distractions caused by the efforts of the men and women of to-day to meet and solve the difficulties — the immense difficulties — which confront us, this greatest difficulty of all should constantly be kept in view, so that whatever solution may be applied to any particular problem which arises, such solution should be one which will not be incompatible with the attainment of a world-wide and permanent peace.

SOME CAUSES OF WAR

What are the causes and conditions which lead to war? This is a big question, and one that it would be impossible to answer fully and completely within a reasonable space. Therefore, I do not intend, and shall not attempt to answer it with more than a general statement on the question. There cannot be any doubt that tariff barriers, trade monopolies, and our competitive system generally, play a very large part in this matter, as they lead to so much jealousy and ill-feeling between nations, which effects are heightened by the desire for expansion which begins to be exhibited by nations as soon as they feel the increasing pressure of population on their boundaries. However much we may disapprove of the methods adopted by any particular nation in her efforts to improve her position as a great world-power, we cannot reasonably blame her for desiring some outlet for her surplus population; and yet this very attempt on the part of a nation to satisfy its legitimate aspirations leads often to complications with other nations, and to the ill-feeling and jealousy in which war has its roots. If we are to avoid war in the future it can, obviously, only be done by getting rid by some means of the conditions which lead to war. We must, in some way, bring about internationally something approaching the same feeling which now exists between the people of each individual nation towards each other. How, then, is this to be done?

Let us consider the question first from a tariff point of view. In arranging a system of tariffs no nation ever thinks of placing tariff barriers between one part of the country and another. Take Canada, for instance. While imports from other countries are taxed on entry into Canada, once landed on Canadian soil, they may be shipped from one part of the country to another quite freely. No one ever thinks of putting a tariff on goods shipped from the East to, say, Winnipeg or Calgary, or *vice versa*. Any such proposition would be regarded as the suggestion of a disordered brain. But why? Simply because we know perfectly well that such a system would disorganize trade throughout the country, would inflict enormous losses on both East and West, and would create discord, jealousy and ill-feeling where there ought to be perfect harmony and goodwill. Yet, is that not exactly what the tariff system does already between one nation and another? "But," you say, "the cases are different." To a certain extent, yes; but do we not see here one of the very elements which lie at the root of the whole trouble, and lead eventually to war? But again you say, "It is no concern of ours if the other nation is injured; we are concerned only for our welfare." Suppose, however, the tariff acts as a boomerang, and recoils upon yourself; how then?

A LOFTY IDEAL

Apart from this, however, have we no concern in the welfare of other peoples? Read what Mr. H. G. Wells says in his book entitled "War and the Future": "The time draws near when there will be no nationality in all the world but humanity, and no king, no emperor, nor leader but the one God of mankind." Is this not a truly lofty ideal? Does it not indicate that after all we *have* some concern in the welfare of other peoples? Would it not be far better to work for so noble an end as an enduring world-peace through the brotherhood of man, which is foreshadowed by Mr. Wells in this quotation, than to go on indulging in a vain hope of peace while at the same time continuing to erect barriers which have the effect of creating discord between nation and nation, as we have done in the past?

The young farmer turning on his electric power as he goes to use the milking machine. By this system every farm can have its electric light and light power.

DESTROY THE OLD BAD PAST

How, then, may the brotherhood of man best be attained? If we put the question to half a dozen different men in any community we shall in all probability get as many different answers. Each has his own pet method by which he hopes to reach the desired goal. But whatever means we adopt, it seems to me that the first thing to be done is to remove the tariff barriers which already exist, and which have been and still remain so prolific a source of discord and even disaster. We must first destroy the old bad past before we can hope to build on a sure foundation for the future; and it is here we may expect to meet with the fiercest opposition from those who stand to gain from the protectionist system at present in operation. I do not intend to discuss here the supposed merits of this system, merits which appear to me to be all on the side of the manufacturer and monopolist, but we cannot ignore the fact that, up to the time of the entry of the United States into the war, at least, it was Great Britain, the

staunch upholder of Free Trade, which had to finance not only herself, but, to a very great extent, her colonies and dependencies, and her Allies as well. Truly a remarkable achievement for a nation living under a system which tariffists regards as *effete*! If, then, as I have tried to show, the erection of tariff barriers creates ill-feeling, and leads eventually to war, it is natural to suppose that the removal of such barriers would permit of conditions which might lead to unity of purpose, and thus make war, if not impossible, at least very improbable.

CO-OPERATION A UNIFIER OF FORCES

In respect to these conditions, the principle of co-operation, if given full play, would prove a most important factor. In this respect, perhaps, the co-operative movement has not received the attention it deserves. It is looked upon, and, of course, rightly, as a means to the better distribution of wealth by the sharing of the savings made in business, but its power as a unifier of forces has certainly not been fully realized. Under a fully developed scheme of co-operation, which perhaps has its best illustration in the co-operative movement of the United Kingdom, the interests of producer, distributor, and consumer are brought into complete accord. Co-operators thus become the producers of their own necessaries, which are distributed by themselves among themselves. Under such a scheme there is no place for middlemen who cannot serve a useful purpose, and, therefore, the workmen who are engaged in the business of production are better paid both monetarily and by means of improved conditions and shortened hours of labor, thus reducing the risk of strikes and other industrial derangements to a minimum.

A NEW ELEMENT IN BUSINESS

Again, where co-operators produce for their own use there is no temptation to indulge in the adulteration of goods or other questionable methods for the purpose of increasing profits, seeing that the savings effected by co-operative trading in any case go to the co-operators themselves; and if adulteration or other questionable methods could conceivably be adopted for this purpose, what was gained in increased savings on the cost of production and distribution would be lost in quality and real value of goods. To adopt a well-known phrase, this method would be simply "robbing Peter to pay Paul." We see, then, that the tendency of co-operation is towards unification of otherwise antagonistic interests, bringing into business a new element and a new atmosphere, out of which grows a new spirit of humanity and brotherhood.

CO-OPERATION AS AN INTERNATIONAL FORCE

Now, if this is the effect of co-operation on an individual community, or on an individual country, why should not the principle be applied internationally? There is already in existence an International Co-operative Alliance which, prior to the war, was doing fine work in bringing together the great European nations on a co-operative basis. Unfortunately, however, this disastrous conflict not only put an end, for the time being, to all hope of progress in this direction, but actually "set back the clock" for years to come. That it is not dead, however, is evident from the many messages from foreign co-operators which were sent to the recent Co-operative Congress of Great Britain, all of which breathed the true spirit of brotherhood, and also from the presence of two delegates from Russia, who stated that since the Russian Revolution of 1905 co-operative societies in Russia had increased from 5,000 to 46,000, with an aggregate membership of over thirty millions, and a total turnover of a billion dollars per year. These Russian co-operators are also looking forward to co-operation playing a most important part "in the establishment of international economic relations," and are anticipating the convocation of an international conference with this object in view, as was announced at the Congress by Mr. Budnoff; whilst Mr. E. Yarkoff, of the Union of Siberian Creameries' Associations, stated that that body, at its annual meeting in April last, had decided to establish trade relations between the producers of Siberia and the consumers of Britain. In this unification of interests, and in the more intimate relations which would thus be established between the civilized nations of the world, it seems to me, lies the greatest hope for a state of enduring and universal peace.

We must bear in mind, too, that this is a method which can be put into effect by the people themselves. Hitherto, we have been at the mercy of statesmen and others in the high places of the earth, but events prove unmistakeably that the dawn—or shall I say the day—of democracy is at hand. It is a time when the people themselves, untrammelled by statesmen, may hope to do things. For years the socialist party in Britain, as well as in other countries, has been advocating the public control of industries; but while socialists have been agitating for government action the co-operative movement has quietly been bringing to pass the very things for which the socialist party has been agitating. To the impatient socialist the process may seem slow, but it has been sure, and in the end it will prove of infinitely greater value, since all the time it has been building up the characters of those who have built up the movement, and rendering them more and more capable in the art of government. What has been accomplished in this direction in Britain will, if the people take the thing in hand, be done on a far greater scale in the future, with the civilized world as the scene of operations, and universal peace and brotherhood as the ultimate goal.

NOVEMBER

By NINA MOORE JAMIESON

I see him plowing on the stubborn hill.
The big grey horses heed his frequent voice,
The children follow him with shouting shrill,
All living things rejoice.

The frost was heavy in the fields last night,
But now the sun has warmed to life anew,
Flinging all lavishly his heat and light
In mellow skies of blue.

Afar we know the cannons roar to-day,
And men on brother men in anger spring,
Striving for lasting peace as best they may—
But here, the late birds sing!

War has not darkened yonder Autumn sky,
Nor cast a shadow on the child at play,
But sons of ours go forth to do—and die,
To-morrow, or to-day!

I see him plowing on the black-ridged hill—
Old, bent and crippled with his years of toil;
Two sons we sent, Canadian blood to spill
On martyred Belgian soil.

Oh, skies of blue, oh, heavy, hard wrung land,
Oh glowing Autumn sun, I cannot sing!
My heart is heavy—but I understand—
For God, and Home, and King!

Let not the sacrifice be made in vain—
Let not our hearts with fruitless sorrow break!
We bore our sons in anguish and sore pain.
God, use the gift we make!

Selling Every Peach Right: By A. P. MARSHALL

How a Success of the Sales End of a Fruit Business is Made

The baskets are carried to the packing house No bruising by this method.

Ladders that do not lean against the tree are used.

WITH such a comparatively perishable product as peaches accurate system must be observed to move all the picking and sell it at top prices with every good peach bringing all that the market will stand. This means that the crop will be moved just as soon as it reaches shipping state and shipment kept up with the ripening fruit throughout the season to a sure market.

Assuming that spraying, cultivating and all that will bring the crop to a successful mature state has been properly done a fine crop can easily lose much of its value by improper handling. Naturally one who has established a reputation for well grown graded fruit finds little difficulty in locating a sure market. Both the buyer and seller wish to prevent any possibility of injuring their mutually profitable dealings and no pains are spared to retain the business of the one and the product of the other.

In the case of Mr. F. Gallinger and his brother J. B., of Stamford, the matter of sale has become almost a secondary one. Proper grading and satisfied big buyers have made a regular market that wants more than they can supply. When shipping one to two cars a day the buyers are always urging for more cars and even bid a better price to get the choice quality the Gallingers give them. Just four men, who wholesale direct (not commission men), pay an arranged price and all deductions for freight and commissions are entirely eliminated. These buyers are located in the smaller cities where the markets are not glutted with so much commission stuff.

In the first place the fruit must be full grown, but sound and firm. Full allowance is made for the few days of ripening between shipping and the use of the fruit. With the orchards arranged so that the early varieties are grouped together and so on as they come into ripening, straight picking can be done without skipping odd trees as otherwise would be necessary.

All the fruit is carefully handpicked into baskets without dropping to bruise it, stepladders being used to get all the peaches on the tree. Groups of workers keep filling up the baskets under a competent boss, placing them together in a convenient place for the team to gather. This team is kept constantly moving, so that a constant flow of fruit goes from the pickers to sorters all day long.

The sorters arrange the fruit so that all baskets contain uniform size and quality. All fruit that could possibly hurt the high standard is eliminated and no question can arise with regard to payment. A mechanical sorter similar to those used in sorting apples is being used with some success. The necessity for eliminating the drop to avoid bruising makes it necessary to pick the fruit up off the sorter so that little time is saved. It has the value, however, of sorting more uniformly and requires less experience in grading the fruit.

The sorter consists of a long, sloping table with five divisions. Nailed along one side of this table is a board placed in such a way that it leaves a widening crack along the top of the table for the peaches to roll onto. A wide leather belt carries the peaches from one end to the other. An

Continued on page 74.

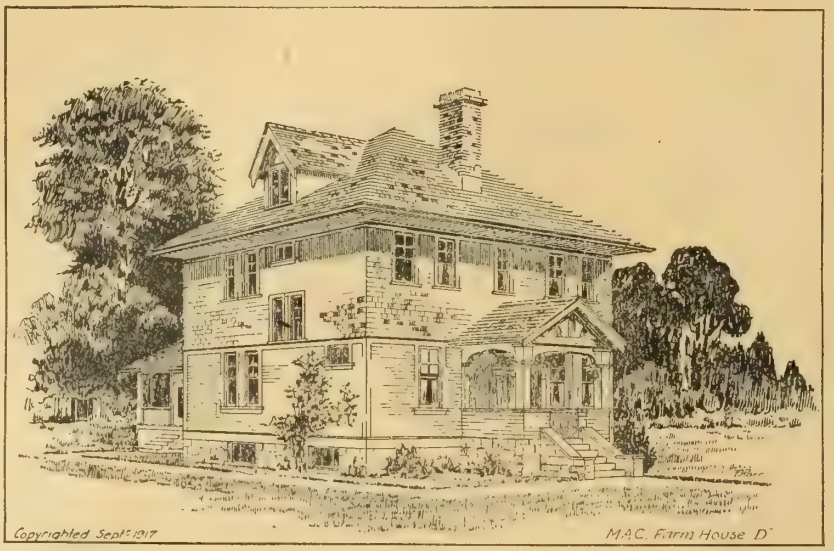
Leaving the sorting sheds for the express office.

Two high school girls who helped this year. One is wearing the new costume

Better Farm Homes: By PROFESSOR L. J. SMITH

Manitoba Agricultural College.

Fourth of a Series of House-Building Articles



HOUSE Plans A, B and C, already shown in past issues of this paper, were selected with the idea of meeting the needs of the many who wish to build as economical a home as possible, but wish a home with modern conveniences. A great many farmers, however, need a larger home. Plan "D" will interest these. The body of the house is 33′ by 33′, there being also a one storey addition for the kitchen, back porch, dairy and laundry at the rear. This plan is by Mrs. H. Waller, of Binscarth, Manitoba. The judges of the competition spent considerable time on this plan, which, as submitted, was 38′ by 38′. It was felt that with some minor changes and cutting down the size to secure greater economy in construction, the plan of the first floor was probably the best of the larger houses submitted. The second floor hall arrangement, however, met with some criticism, and after a great deal of discussion it was decided that the plan as shown could not be placed with the first five. House plan "D", as changed, is probably the best of the very large farm house plans submitted. With its addition, it is more expensive than the ordinary large farm house 30′ by 32′ or 32′ by 34′.

There are two small halls on the first floor (fig. 1); the feature, however, is the arrangement of the back portion of the first floor. The kitchen and dining room arrangement, with the pantry between and opening on the corner of the dining room, is very good; also the back stairs to the second floor and to the cellar with the built in buffet and coat space filling in the space between the kitchen and the dining room. By this arrangement the buffet takes up no space in the room itself. The arrangement of doors and wall space in that side of the room is symmetrical, and will give the dining room a very pleasing appearance.

The arrangement of the back lobby is especially good. Here the help have a convenient washroom and large bedroom directly off the lobby and verandah, and can enter the dining room from the lobby without going through the kitchen or any other part of the house. In case of sickness requiring complete isolation, this plan is ideal, for this part of the house can be completely cut off; for all food and necessary visits the outside door can be used.

The kitchen might be considered too large by many; but the kitchen equipment proper is conveniently grouped at the half of the kitchen nearest the pantry, as shown in Fig. 2, which gives a nice eating space for the help if so desired. Should a married couple be assisting on the farm, this would be an ideal arrangement.

The front hall and stairs will be quite a feature in this home. It is warm, and convenient to all the front rooms. The fireplace took some careful planning, but is not to be omitted in a house of this size.

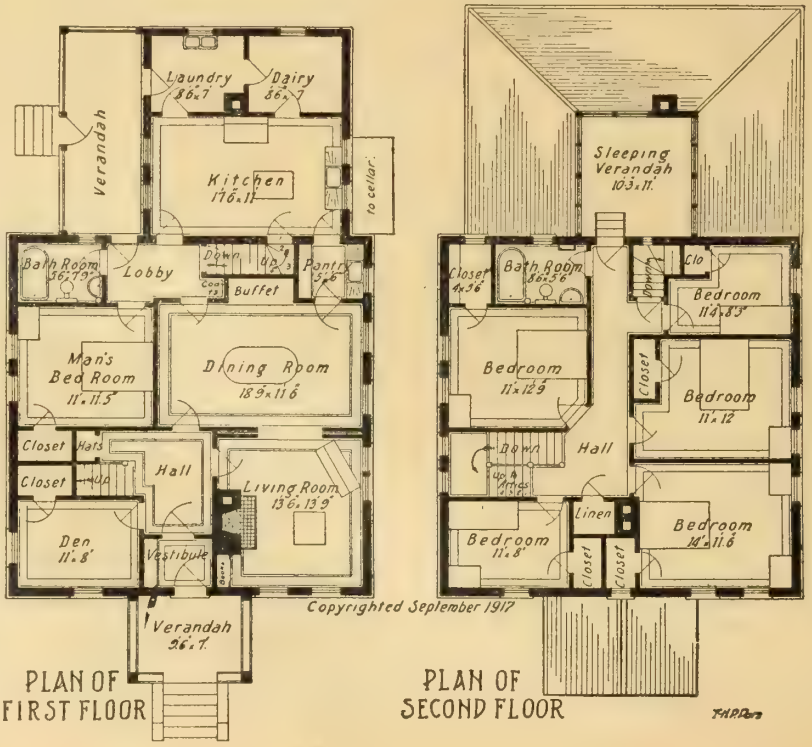
There are three good double bedrooms, and two single ones for the young folks, on the second floor; and two comfortable attic rooms. The large sleeping porch will be a feature in this house.

The full basement affords ample room for fuel and vegetable storage, large soft water tank, lighting system, etc. There is also an outside entrance.

The exterior has a good substantial appearance (Fig. 3), and is a plain style of architecture that will not look out of date ten years hence.

Complete working drawings, together with specifications and bill of material, can be had by writing the Department of Agricultural Engineering, Manitoba Agricultural College, Winnipeg. This material is sold at a nominal price with no intention of securing a profit, but to cover the cost of the reproduction of individual copies. The cost to applicants residing in Manitoba is $3, and for those residing elsewhere $5. This is an especially good price since an architect would charge not less than $150 for doing a house of this size. Applicants, when sending for this material, should allow plenty of time for the getting out of copies of the specifications and bills of material.

MANITOBA AGRICVLTVRAL COLLEGE
PLANS OF FARM HOVSE "D"
33′ × 33′



Corn Crib to Keep Out Rodents

Corn cribs can be made rat proof by applying expanded metal lath on the frame work before putting on the wood strips. Metal lath can be obtained from dealers of building materials and is fastened onto the framework by staples. The floor as well as the sides of the crib should be covered with lath. The small openings, or mesh of the lath, permit circulation of air.

Making the Extra Dollar

Growing Pure Seed Adds Profit as Well as Neighborhood Interest to the Work

FRANK B. McCLAIN, of Lancaster, Pa., who is one of the largest livestock dealers in the east and a close student of market matters, writes:

"Of all the raw material convertible into foodstuffs or, for that matter, into any economic use, feeder cattle, as compared with beef cattle, are the most out of proportion. Never in the history of the cattle business in these United States has there been such a widespread difference between feeders and beef cattle as at the present time, and it looks a dead sure thing that farmers who buy feeders at the present prices will make money on them. The world shortage of meat animals, according to the most conservative estimates, is 114,000,000 head. This shortage in supply cannot, under the most favorable circumstances, be half replenished within the next four years. Whether the war continues for three years or for three months will not affect high prices for beef cattle.

"A few weeks ago, in conversation with one of the greatest packers and exporters of beef in the United States, he said to the writer: 'If we could get enough boats to carry all the beef abroad for which we now have demand, the price of beef cattle in the United States would be from 3 to 4 cents per pound higher.'

"And he further said: 'Should the war cease the people in lands across the sea will have to eat and live, and, with the submarine menace removed, ocean freights will be lower, insurance will be lower, more boats with refrigerator equipment will be available for transportation, and the exportation of American meat foods will be multiplied instead of decreased.' This sounded to the writer like pretty good logic, and he repeats it for the benefit of all who may be interested, and with it gives the admonition, 'Think it over'."—Winnipeg *Livestock Journal.*

I MIGHT say I have been growing Banner oats under the supervision of the C.S.G.A. for the past five years. To begin with we purchased some Registered Banner oats. We select (each year) enough heads to sow a small plot the following year. I sow them on a good piece of land, preferably land that has been in hoed crops the previous year. The oats grown on this plot are termed Registered Stock Seed and will be recognized by the Association for three years. By hand selecting each year and being careful at threshing time we can keep our seed pure. We use no commercial fertilizers. — Fletcher Walker, Royston, Ont.

I HAVE been in the crop competition since it started in our county, and know it to be a good thing. The way I got my seed oats was by purchasing a bushel of prize winning Danish White Oats that got fourth prize at the Ottawa Fair. From that bushel I got enough to seed a field for which I got first place, winning $20. It was not hard to do. Besides, my neighbors liked them so well that they bought them at 50 cents per bushel advance over market prices.

My barley is O.A.C. No. 21. I have won prizes on it, but never got first prize on account of a few wild oats that I have not yet succeeded in eradicating, and another time it was lodged so badly that it did not fill well.

But my chief reason for growing this grain is that I hate to be behind my neighbor, and I try and farm my land so as to have it in perfect order, free from weeds of all kinds, and then I try to sow the best seed I can get. That is one of the most important things in seeding, as I have tried and proved. Some farmers clean their seed grain once and think they have done something, but if they would clean it three times it would pay them twice over for their trouble.—H. I. Gray, Frankford, Ont.

I AM very much pleased to have space in your paper to give a brief sketch of a few of the elements of my success in growing the grain with which I have been successful in winning prizes in the field crop competition and also at Central Canada and Toronto Exhibitions. My chief idea in growing this grain is to know that I am improving the quality of the grain on my farm and also getting rid of all noxious weeds, so that my grain is of the very best quality for seed purposes.

I would advise any one, in order to get a good crop, to be very careful as to the purity and quality of his seed and as to where he sows it. First of all he should select a piece of land free from all kinds of weeds. Then he must be very careful as to the purity of the grain and must clean it well and take out all small and shrunken grains, which leaves nothing but the very largest and most vigorous kernels. By doing this year by year he is bound to increase the quality and yields.—Thomas Sellers, Zephyr, Ont.

WE plow our sod as soon as possible after hay has been removed and keep working the surface as often as possible till late in the fall. This forms a good seed bed for the following spring and kills the weeds. It also connects the upper and lower soils and will hold the moisture that would escape with the usual spring preparation. Ground prepared in this way requires only light cultivation in the spring and can be seeded in much less time when weather is hot. We found we get much better results with seed bed prepared in this way. And with good seed well graded there should not be much worry as to results. We find the above method gives better results than plowing the ground twice as practised in some parts. We cannot recommend late summer and fall preparation of ground too strongly for following spring crops, neither can we recommend too strongly the procuring and grading of good seed. We believe the cause of poor crops is as much the result of poor seed, as of poor cultivation. The disk harrow is best for surface work.—Peter Wilson, Cobden, Ont.

Profit in Feeding Corn to Hogs

In talking with a number of hog feeders at the Iowa State Fair and during a recent auto trip through Ohio, I found many of the opinion that during the past summer there has been no money in feeding corn to hogs. I wish to relate the experience of H. B. Farquar, Adair Co., Ia., who buys and feeds several loads of hogs every year. On Aug. 20 Mr. Farquar sold seventy-three hogs on the Kansas City market for $19 per cwt. which had never been fed anything except corn, water, salt and ashes.

"These hogs were fed in a dry lot on a concrete feeding floor," Mr. Farquar told me recently. "The corn was soaked from one meal to another, with a double handful of salt in each feed when it was put to soak. These hogs were bought at $14.27 per cwt. We put in fifty head on June 6, eight more a few days later and fifteen more at about the end of two weeks, making seventy-three in all. These hogs were not a selected bunch, but just as they came from the farmer, runts and all. The average daily feed for the first sixty-eight days was 8 bushels of corn. During the next eight days 75 bushels of corn at $1.85 put on a gain of 1,010 pounds."

The table of gains for the first sixty-eight days as Mr. Farquar gave it to me is as follows:

Average initial weight, June 6, 143 pounds. Average final weight, Aug. 14, 244 pounds. Average gain, 101 pounds. Average daily gain, 1.48 pounds. Average daily ration of corn, 6.139 pounds. Feed consumed for 1 pound of gain, 4.242 pounds. Cost of 100 pounds of gain, corn at $1.60 per bushel, $12.08.

Pork which cost Mr. Farquar $12.08 to produce sold on the market for $19, giving him the difference of $6.92. He advises hog men to stay in the game now. He sees no reason, under present conditions, why a feeder should not buy and feed as usual, using judgment, however, as to the time to buy the shoats and feed. He advises also the breeding of the sows for spring pigs. — Harry R. O'Brien, in *Breeder's Gazette.*

Smothering Weeds

An ingenious method of eradicating weeds in the Hawaiian cane fields has been devised by Mr. C. F. Eckart, manager of the Olaa Sugar Co., says the *Scientific American.* Immediately after harvesting, the rows of stubble, after being cleared of trash and fertilized, are covered with strips of light-weight tar or asphalt felt paper. Stones and trash are placed over the paper to prevent it from being blown away. When the new cane shoots emerge from the ground they are rigid and sharp enough to penetrate the paper, while the softer weeds cannot do so. The process is facilitated by slitting the paper at points where little tent-like elevations reveal the presence of shoots. The weeds are smothered out or dried up by the solar heat radiating from the under side of the covering. When the shoots first emerge they are, naturally, quite etiolated, but they soon turn green and grow vigorously. Besides a great saving of labor, this process is said to result in an increase of yield averaging 10 tons to the acre, owing to the mulching action of the paper and its absorption of solar heat, and consequent heating of the ground.

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Editorial

FOOD will be scarcer next year! Prices better!

THE Food Producer must have no handicap.

THERE is only one answer to the consumers' call for cheaper living—get back to producing.

AND after all potatoes are not so big a crop. Next spring prices may rival this year's.

IT MAY be good policy not to exempt any occupation from conscription, but unless we have some wise tribunals, farms will go unworked next year by the thousands of acres.

IF THE Wm. Davies Co. had not had that big British contract for bacon, would not our farmers have had to take prices made by the big packers of Chicago?

THE big profits made by the pork packers were largely the results of fine organization and savings of little things. If farmers were equally as thrifty, says J. E. Brethour, the returns would be bigger.

HON. T. A. CRERAR, our new Minister of Agriculture, has stated that a closer co-operation of all farm organizations in Canada is to be his policy. Every farmer will pin his faith to him if he can make things better for agriculture.

GOOD prices for all farm produce, especially for livestock, will continue for years. America will have to feed the world during the war and restock it afterwards.

HANG on to all good breeding livestock. Struggle to hold your own numbers, if you can't increase them. The rewards will pay.

FARMING will have to pay better than it has during the past twenty years in Canada if the people are going to keep at it. The remedy lies largely in taxation readjustments.

WHY do not the authorities trust the people more by telling them all the facts about the war? It is the people who should be acquainted with the facts and who should direct the activities of those they place at the head of affairs.

THE WAR BONDS

FARMERS cannot invest their money to better advantage this winter, outside their farm operations, than in buying war bonds. The new loan now being floated will give every man a chance to assist in the finances of his country, besides helping this country to finance more orders from the Allies. It ought to be well known that the farm prices cannot be paid unless Canada can assist in the purchase. The more the war loan is subscribed to by Canadian farmers, the bigger assurance they will have of future good prices for farm produce.

SHORTAGE OF FARM TOOLS

THE difficulty that many farmers have had during the past season in getting deliveries of new implements, is the cause of the big prices being paid at the countryside auction sales this fall for old implements. This shortage and difficulty of transportation and manufacture are likely to be just as acute during the coming season. Farmers, therefore, who require any machinery during the next crop season would do well to order early and secure delivery just as soon as they can. The same will apply to fertilizers.

THE PORK PACKERS

THE inquiries into the profits made by a particular pork packing concern in Eastern Canada have extended over some weeks already. The results of that investigation have not been as conclusive as certain ones would like. For there has been nothing of real value to them upon which to continue their tirades of abuse. The only outstanding feature of the case is that the firm in question have been making big profits out of their business. Is that a crime in a world that is based on the competitive systems?

It is quite clear to many farmers that the price of hogs in Canada during the past year has been high because of the operations of this firm. They have been paid prices that have warranted them feeding high-priced grains with high-priced labor. Otherwise the prices of Canadian hogs would have been set by the big packing firms of the U.S., who only a few days ago tried to put live pork down to 12 cents.

It is quite within the range of possibility, some people are reasoning, that the muck-raking in the present case is a sort of sop to consumers. It is poor stuff indeed that feeds some consumers' minds during a period of high prices. It is poorer stuff that makes politicians think they have to pander to such ways of getting votes.

The inquiry in question has not proven anything detrimental to the prices paid to the farmers. The real wrong was in the Government not taking a fair share of the profits for financing the war from a business that the war created.

GUARANTEE PRICES FOR BACON

J. E. BRETHOUR of Burford, Ont., one of the leading swine breeders in Canada, argued before a number of Government officials last month for a guarantee of prices for hogs to the farmer during the next two years. These arguments are sound from the standpoint of getting results in any "produce more" campaign.

It is argued that the munition men had a guarantee of prices and they went forth to produce the shells. They bought their raw material, hired high-priced labor and knew where they were getting off at. The farmer is asked to produce more bacon, with high-priced labor, high-priced raw materials, such as barley, corn, wheat, and roots, which are all equivalent to big cash returns these days, without any such guarantee of his finished product. He is naturally asking if it is the square thing to do. And he is not going to be caught asleep.

Further the campaign last year to produce potatoes and then see the Food Controller talk of potatoes at $1.25, has made many farmers fear, and rightly so, that, when they produce a big lot of hogs, some friend of the rabble will curry

favor by fixing the price of pork. The fear in the back concession is no myth. It stalks there all the time.

Now is the farmers' breeding season for hogs. If he is convinced that he will get out next fall, he will at once proceed to breed his animals to that end. He will reserve many a promising sow now selling in the market for $25 and $30, and gladly hold their value over for a year if he sees a likelihood of getting out without a loss next year. The farmer takes more chances than any other business man.

If the Allies want bacon, there is no surer way of getting it than by placing a guarantee of 12 cents or more to the farmer for two years. It is the cheapest way of insurance that the food controller could use.

Already the rumors come through the market reports weekly from Chicago that the big American packers are seeking to lower the prices for hogs. Farmers fear that this thing will continue. For, while they are intensely loyal to the Empire and will do all they can when they see it that way, they are not going to be foolish enough to produce at a loss when other business patriots see to it that they are protected.

THE TRACTOR IN ONTARIO

CONSIDERABLE criticism is indulged in, in some quarters, over the apparent failure of the tractor to come up to all expectations during the past season. These de-tractors seek to belittle those in Ontario's Department of Agriculture over the showing made. Isolated instances of high costs per acre for work done, are the pegs for antagonistic remarks. And so they generalize to the total extinction of mechanical power and farm-used gasoline.

But they speak too soon and too vehemently to be correct. Every advance movement makes many mistakes due to bad judgment and to inexperience. For the need for greater producing power and for a substitute for human muscle is too insistent to down. The plain facts of the case are that we will need mechanical power next year far more than this year, that gasoline driven implements are quite feasible; that the costs need not mount up out of proportion to the work done. This has been demonstrated already. It can become general.

That the Ontario Government has 135 tractors of various makes out through the province, is one of the wisest things they have done. They have erred in that they did not go at more, that they did not put more vim into the work, making selective expenditures on a larger scale.

Too long we have had the whole cost of the initial expenditures for new implements borne by agriculture, until millions of dollars were lost to the farm, to establish what machine was the most serviceable and suitable for a particular purpose. And if the experiment of the Ontario Agricultural Department helps to bring about the perfect tractor, to standardize them, to show the longest-lived machine, with the cheapest repair bills, and the easiest to operate, they will have conferred, at a very low cost, a great boon on our farmers.

The mistakes made during the past season are largely due the operators and the system of handling them.

As Mr. C. F. Bailey says, this will have to be remedied next year, and the coming winter months ought to see a plan worked out. Then again there are too many fanciful tractors. They are put on the market to sell only, chiefly stock in their promoters' companies. Few farmers should purchase stock in a traction company, if they have no opportunity to know the genuine from the fakir.

The tractor that will pull two plows in the hardest kind of soil up hill and down, that will not get stuck in the mud, and that will do the belt work of the farm, is the one that will find an astonishingly big sale on the 100-acre farms of Ontario.

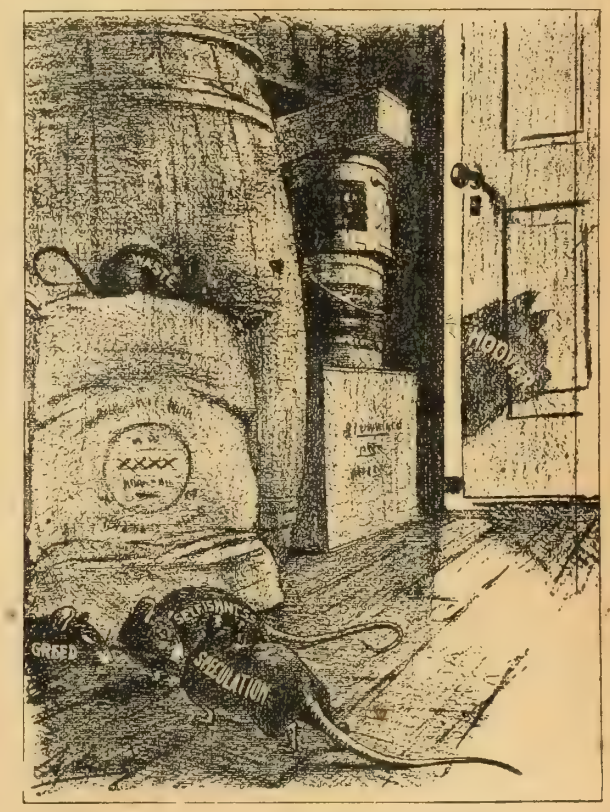
SOME FARM FACTS

WERE the manufacturers capable of turning out the machines, the change from horse power to tractor, electric power, and steam would be as much in the coming three years as would normally occur in a half century. Every type of horse but the most efficient—the heavy drafters of quality—have been declining in importance. War weeds out the unfit, and corn at $2.30 and higher, with oats around 80 cents a bushel and hay the highest ever, has thrown the spot-light on the horse. At last the horse has to go—either ahead or out.—*Hoard's Dairyman.*

THE level of prices paid producers of the United States for the principal crops decreased about 0.9 per cent. during September; in the last nine years the price level decreased about 2.4 per cent. during September. On October 1 the index figure of prices was about 69.3 per cent. higher than a year ago, 116.1 per cent. higher than two years ago, and 104.1 per cent. higher than the average of the last nine years on October 1.

The prices of meat animals—hogs, cattle, sheep and chickens—to producers of the United States increased 8.1 per cent. from August 15 to September 15; in the last seven years prices increased in like period 1.4 per cent. On September 15 the index figure of prices for these meat animals was about 52.7 per cent. higher than a year ago, 88.9 per cent. higher than two years ago, and 81.2 per cent. higher than the average of the last seven years on September 15.—*U.S. Monthly Crop Report.*

THE Toronto *Globe* points out that there are 1,180,000 fewer cattle, sheep and swine in Ontario than there were in 1913, and that the decrease for all Canada in the same four-year period aggregates 1,742,000. Canada has nearly 100,000 fewer milkers than in the year before the war, nearly 700,000 fewer cattle of all kinds, 119,000 fewer sheep and 935,000 fewer hogs. A similar development has occurred in the United States, while the destruction of livestock in Europe since the war began has proceeded on an enormous scale. There are not nearly enough animals in the world to-day to keep the people supplied with food. The worst feature of the situation is that there seems to be little prospect of improvement so long as scarcity of feed, lack of labor and an abnormal demand for strong food for the armies conspire to draw upon the remaining herds and flocks. The facts here cited are sufficient to explain the high prices of meats, without counting the expense of distribution. The lesson for the Canadian agriculturalist is that there is and will long be a great deal of money in the raising of livestock of all kinds.



—Dykes, in Philadelphia Evening Ledger.

When cat's away the mice will play
So runs the adage hoary,
But Hoover's eye doth watch nearby
And that's another story.

Marketing Farm Produce

The Experiences of One Farm Home in Getting its Produce to the Consumer

By NINA MOORE JAMIESON

HAVING been accustomed to Hamilton market, more or less, from childhood it was rather a surprise to hear that it is the superlative market in Canada. This is something equivalent to hearing that your hired man who seemed too stupid for anything has stood up before George Windsor with a little "V.C." where the Royal hands placed it. We never saw anything wonderful about Hamilton market—we knew it too well. In those years when I lived in Hamilton, and used to hear the horses whacking along the harsh streets about three or four o'clock in the morning; when I used to fare forth myself with a market basket and a list at any time from eight to ten o'clock and squeezed through the crowd, steaming in July or shivering in December; when I used to bargain for my week's butter, sniffing tentatively at the deceiving yellow packages—oh, then I thought I knew something about marketing. Now I have discovered that there are two sides to this subject and I have some knowledge of both.

We do not go to market regularly. We are farmers, not market-gardeners, or fruit-growers. This Beverly land will keep a man reasonably secure from bailiffs, but it will never fire his ambition for a career on Wall Street. So we go only occasionally to market, and even more rarely of late when help has been scarce, and the storekeeper shows a commendable willingness to call for our produce. But about the beginning of September we usually set apart the surplus roosters and the hens of yesteryear, and proceed judiciously to enlarge their boundaries with about twice their value in "feed"—never "food," you observe.

Then there comes a strenuous day when these birds are dressed for sale. Isn't it strange to think that fowl are not dressed until they are undressed? But it is so. There is no fun in the process, either. It is very tedious to sit out in the stable for the greater part of a day stripping the reluctant feathers from birds, so that some one may poke a scornful finger at them and say, "Oh, what a blue chicken!" or trenchantly, "Old birds!" Sometimes we take down the live birds in a crate, and sell them that way. The Jewesses crowd about for them and it is quite amusing to see a fine looking matron march off with a worried protesting Plymouth Rock under her arm!

PLUCKING THE HENS

I usually pluck five or six at the stable. Then as I see the time flying along, and realize how much there is yet for my one pair of hands to do, I go to the house and set the kettle on the fire. Now, light-heartedly, I attack the remaining birds; the boiling water will gain many minutes for me, although to be sure, scalded chickens never look as nice in the market basket. The good lady who taught me all these tricks also insisted that dressed fowl should have their feet washed! So I go over the whole tale, scrubbing their

Good butter has no smell

feet, tying up their necks with white paper and arranging them neatly in the basket on a white towel. Ten chickens—ten dinners—ten wishbones—ten dollars—probably more this year.

We sometimes take potatoes, sometimes pork, for we might as well have a good load as we go so seldom. Pork means a big day of preparation, for the pigs have to be killed; knives must be ground to a Shylock edge; there are journeyings to and fro from the kettle to scald the victims in. There will be extra men at supper, and worse yet, extra dishes to wash afterwards. Then hearts and livers are doled out to the neighbors who have given a half day to help us, for it is quite a treat, and we would feel it quite a calamity if they were all left for us to eat, now that food simply must not be wasted! Town-going clothes must be laid out after dishes are washed and chores done, so that all may be ready for an early start in the morning.

Oh, that yawning seasick breakfast in the darkness of early autumn before sunrise! The hasty cup of tea, the cold meat and bread and butter, so flavorless now,

Home killed pork and bacon bring good prices if kept clean and attractive.

but so delightful at other times! There is always a rush to get away. Some of the children are packed off to Grandma's, or to a neighbor's; one goes with us, much set up over twenty-five cents in coppers which are the just reward of a small boy who is doing well in his class at school. Solomon in all his glory had nothing more glorious than that accumulated wealth.

If it should happen to be a cool morning we are quite chilled by the time we rattle down over the Heights, crossing the high level bridge above the old canal Desjardins. There is a wonderful view from here: to the East it is scarcely enhanced by tremendous bill-boards advertising everything under the sun, more or less; and by a green, scummy evil-looking stretch of water such as we unsophisticated country-folk regard as a scandalous blotch on the country-side. Toronto need never consider Hamilton as a serious rival while the Ambitious City allows her approches to stand so grievously in need of attention. This may be outside the city limits—I do not know. But whoever is responsible for it should be made to go and live beside it. No absentee-landlordism there!

ON THE WAY TO TOWN

Across the long wind-swept bridge we trot along through a vague sprinking of houses, which look decidedly forlorn and weary. But the big cemetery is always interesting in its fragrant beauty of flowers or the white peace of winter snows. How strange that it lies opposite the lovely old Dundurn Park where the merry music of humanity rises to float over the quiet city of the dead. Life and death! Always side by side! We always go through the Park, if possible, for we love those twisting roadways, the magnificent old trees and the smooth, delightful green of the grass. It is not far now down narrow, huddled York Street, with its inviting pawnshops and second-hand stores — they always draw me — to the market itself.

Unless we are in good time we may find it rather difficult to get a good "stand," for in fruit season the old market is a roaring maelstrom. There are wagons set axle to axle all about the open space of the square; wagons built out into a little street made of themselves; wagons overflowing up on MacNab Street, even to King; down to shabby Merrick Street, where the foreigners seem to do a great business, selling apples one by one, and grapes in little twisted paper cones; and even spilled back upon unresponsible Market Street, in front of livery stables and tin-shops. There is a sort of covered affair where flowers are sold, and just across from it, poetic justice has placed the fish market. Although there is an ugly red hall for the convenience of those who have butter and eggs to sell, it is so notoriously hot in July, and so unfailingly Arctic in October and November, that I prefer to die a natural death, and have never done more than try it. The rich, heavy smell of much fruit sets the boy's wealth to jingling, but, of course, we have to sell our own produce before doing anything else. We find a place and back into it; the horses are unhitched, the tongue of the wagon propped up, and the fun begins.

GOOD BUTTER HAS NO SMELL.

Sooner or later the market clerk comes along, and having taxed us the customary fee, proceeds to put his mark on our rig with a piece of chalk. I have usually

been successful in selling my chickens outright to some dealers. The white towel around them, the white paper on their necks, and the clean feet appeal to the fastidious buyer. This is a relief, for no words can tell the tax it is upon my soul to dicker and bargain with my fellow men. No—I mean fellow-women, they are the real culprits, and only a driving sense of the duty I owe to myself as a farmer's wife makes me persevere in this ordeal. The less a woman knows about butter, eggs, and fowl, the harder she is to please.

I set up my butter in its white wrappers with "Mary Ann" in bold, black letters upon the surface. Curiously enough, many people seem to think it cannot fail to be good butter when it is labelled "Mary Ann." Soon the housewives appear. "What are you asking for your butter?" I state my price, and they pass on, to ask the same question of the next butter lady. A knowing buyer will examine the butter first, and then, if it suits, ask the price. But presently one comes who propounds the second question of the catechism, "Is it good butter?" I invariably respond with a certain heat, that it is good butter. I wonder what they expect me to say! Sometimes they do not like it so yellow; sometimes they would like it yellower. Some times they ask if it is separator butter and appear to be prejudiced against that sort. In fact, they usually prefer it to be whatever it is not. Unfailingly they ask to taste it—and quite unfailingly they meet with a refusal. I will not even open the wrapper on the dusty market, so they must be content to merely sniff at it, although, between you and me, I don't even like the noses of the great unwashed or half-washed, to come near my dainty butter. Any woman who buys butter on the market from a stranger is taking all chances, and she might just as well be a sport and take her chances with her eyes shut, and not hedge and twist as if the whole thing was in her hand. If she cannot look at me, at my dress, my hands and my fingernails and know whether she wants to buy my butter, then she had better move on to some more complaisant vendor who will sell her a pound or two that have already been liberally sampled by prospective buyers.

DICKERING IN THE MARKET

Butter and eggs should have no smell whatever. That, and the appearance of the basket are your only safeguards in market buying. Now that I know something of the business, I feel that I would not wish to buy butter without some knowledge of the dairy methods of the maker; how she washed her churn, for instance, and where she stored her butter. I would also like to know whether the cows were tuberculin tested, and who milked them—the hired man, after cleaning the pig-pen, or the "missus," in a light, sanitary stable, with a clean apron upon her, and her hands fresh from soap and water! Perhaps it is too much to ask all this, therefore it would be well to keep on making it for myself.

In spite of my uncompromising attitude towards the butter-seeking public, I have never had any difficulty in getting rid of either butter or eggs. There is then a crowded hour or two in which we make the rounds of the rest of the market. It lies just back of the city hall, which bears over its stately front steps a cheerful "Welcome" to the city, picked out in small electric lights. But at the rear there is no incandescent welcome to the farmers—only the grim, smoky towers that even hide the city clock from an enquiring eye. It is truly a wonderful place—all fruits in their season piled in tiers and presided over by ladies of antique design or younger women of more modern array, but all of an alert business-like turn, which fills me with envy. . . . The number of baby carriages is staggering. From the meagre go-cart to the imposing "cab" or "pram," they travel in surging, conflicting, twisting procession. Sometimes there is a basket of onions, potatoes or fruit in with the youngster, and occasionally the unmistakable wail of a very young infant moves the marketing throng to offer sympathetic advice to the worried mother. It is a good-natured, noisy, hurrying crowd, happy-go-lucky, visiting cheerfully with chance-met friends. Yes, truly, since I have been told that Hamilton market is a great affair, unique in the Dominion, it is not hard to realize that this may well be so.

The Cream Separator Has Made Good

How the Best Results are Secured by the Thrifty Farmer

By W. H. UNDERWOOD

THE only really satisfactory method of obtaining cream from milk on the farm is by the use of a standard make of cream separator. We have used a separator on our farm for a number of years and certainly would not do without one even though we had to pay two or three times the price that our present one cost. If we were asked the question, "what size herd of cows must a man have before a separator can be used economically," we would answer it by saying that to the owner of two good cows the machine is an economical investment. "But consider the price," someone may say. Why certainly. We all want to consider the price before investing our money in anything. The cost of a good cream separator may seem high, but when the amount of butterfat obtained by machine separation is compared with the quantity of butterfat secured from the same quantity and quality of milk by other methods one can easily figure how long it will take to save the cost of the machine.

There are several makes of cream separators on the market. The principle upon which they do their work is practically the same, but there is a difference in their efficiency and durability. If one has a preference for a certain make of machine and is satisfied that it is durable and will do the work required of it, that is the machine for him to buy, but the man who has no preference and who simply wants a good separator should not accept one that has not been thoroughly tested. If a separator is brought to the farm and operated, capacity tested and the skim milk tested for butterfat by an agent or a salesman, the prospective purchaser should be sure the machine is not turned faster than the number of revolutions indicated on the handle or stated in the book of instructions. There are machines that will not do close skimming at regulation speed, but will do very efficient work at a greatly increased speed, and this means greater wearing of the running parts and more work for the operator if the machine is run by hand. Before we purchased our separator we wrote to a number of separator firms for their literature, which gave prices, descriptions and illustrations of their machines. Thus we had a number of different makes of machines from which to make a selection, and were enabled to procure a separator that has given and is still giving perfect satisfaction.

Cream separators work on the centrifugal principle, that is, the heavier part of the milk, which is the skimmed milk, is thrown outward with great force and the butterfat collects in the inside, forming a column, it being lighter than the skimmed milk. The bowl of the machine has two openings to let the contents escape, one for the skimmed milk on the outer edge and the other for the cream on the inside edge. This is capable of being regulated to increase or diminish the flow of cream as required.

Operating a cream separator by hand is certainly no easy task, but if one has a little gasoline engine to run the machine the job of operating is a pleasant one. Our separator is operated by a two horsepower engine, which is also used to run a barrel churn, washing machine and grindstone. Small gasoline engines are offered at such low prices that one can be afforded by any farmer, and the cost of gasoline required to keep one busy is so small that it can hardly be considered when we take into consideration the amount of work it will do and the labor it will save.

In order to get the best results with the cream separator it is necessary first to have the machine set perfectly level on a solid, firm foundation. A block of wood about two feet in diameter to which the machine can be securely fastened makes a good solid foundation, but a block made of concrete is much better. This makes a permanent foundation and is easier to keep clean than wood, which has a tendency to become greasy. In molding a block of concrete for this purpose one should not forget to mold in four bolts for fastening the separator. With this solid foundation there is no chance for jar or vibration of the machine.

One of the most important items in operating the separator is to run it at a proper rate of speed, that is, at the speed indicated on the handle or in the instruction book. A lesser number of revolutions of the crank per minute than that specified on the handle or in the instruction book will cause a loss of fat in the skimmilk. With a little practice the proper speed and uniformity of motion can soon be learned. There is a characteristic hum of the bowl that is not heard either when the speed is too low or too high.

The best time to skim the milk is immediately after it has been drawn from the cow and strained or while it is still warm. Most separators do their best work when the milk is at a temperature of from 85 to 95 degrees Fahrenheit. The

colder the milk when skimmed the greater the loss of butterfat in the skim milk and the poorer the grade of cream. When the quantity of milk is very small the cream will not flow from the separator and all the milk will run in one spout.

It is best to skim a cream that will test from 30 to 40 per cent. or in other words in skimming ten gallons of milk one or one and one-third gallons of cream should be obtained. It is not the amount of cream that is important, but the amount of butterfat.

If the cream is sold to a creamery where testing is done by weighing instead of measuring, the correct test will be obtained whether the cream be thick or thin. Cream testing between 30 and 40 per cent. means more skim milk left at home. Higher testing cream keeps better and naturally there is less to transport.

If a certain amount of cream is churned at home and an equal amount sent to the creamery the number of pounds of butter obtained at home will be a trifle more than the butterfat figured from the test of the cream at the creamery simply because the test determines the amount of butterfat. As a rule six to six and one-fourth pounds of butterfat will make seven pounds of butter. When a separator is set to skim a 40 per cent. cream it does not mean that every can of cream obtained will test 40 per cent., for the percentage of fat in the cream varies with the speed at which the machine is operated, temperature of the milk, amount of milk going into the bowl and variation in the test of the milk.

It is very important that the separator be kept as clean as possible at all times. It is really more important to wash the machine each time it is used than it is to wash the milk pails or dinner dishes from which we eat. Dirt is removed from the milk in separating and remains in the slime of the bowl. Hence if this latter is allowed to collect in the bowl the separator cannot do its best work either in skimming or helping to purify the milk. Washing is best done immediately after the machine has been used. Take it apart, rinse well with cold water and then wash all parts of the bowl and tinware in warm water, using the brushes that belong to the machine. It is best never to use a dish cloth or soap of any kind, but rather small quantities of washing powder free from grease. After all parts are thoroughly washed rinse in boiling water and place in the sun. Even the brushes used in washing should be scalded and placed in the sun. The bowl is best left apart until the next milking time, but it should be put together a little while before milking so as to avoid delay.

Future of Cow Prices

Here is the way a writer in *Hoard's Dairyman* sizes up the dairy situation of the world:

"Take Belgium, the Netherlands, and Denmark alone, and we had before the war the most densely dairy populated countries of the world. Situated as they are between London, Paris, Berlin, and all the hundreds of great industrial cities of Europe, they were the specialized nations that depended most on the dairy cow. They each carried about 160 cows to the square mile. Now there are no Belgian cattle left, you might say, though because of the Belgian relief work a few cows still remain. If the war results in the clearing of Belgium from the hold of Germany, every animal will be taken, however. Peace must see a rebuilding of will be dairy cows, and the likeliest place from which to get them is the United States.

As to Denmark and Holland, whose dairy products lead the world in the open market, they are now forced to cut down their herds on account of the embargo of the United States. Up until this embargo law was passed, there was presented to the world an efficient fighting Germany existing because American feeds were allowed to go freely to the adjacent neutrals to be turned into butter, milk, eggs, cheese, bacon and beef. Regardless of what these imported feeds cost the thrifty Danes and Dutch, their products always sold for prices high enough to make a tremendous profit. Dollar bacon, eggs at more than a dollar a dozen, butter at that much a pound, and other prices in proportion are indicators of the profit to neutral farmers who keep their herds up to capacity. Now this is ended, and already news of a reduction of a half million head of cattle in Holland is announced. Probably as many more will be slaughtered in that country before the first of the year. In Denmark the same thing must happen until those countries have reduced their herds to a self-feeding basis. Even then, should the war drag out to a starvation point, the threat that Germany always holds over these two neighbors, is likely to compel a continual and increasing slaughter of live stock to furnish meat for Germany, to say nothing of the war prices by which farmers will be tempted from now till after peace comes.

It, therefore, seems certain that American breeders of pure-breds, good grades, and even common heavy milking cows, will be called upon to furnish many boat loads of dairy animals at war's end.

Seed for Experiments

A free distribution of superior sorts of grain and potatoes will be made during the coming winter and spring to Canadian farmers from the Dominion Experimental farms.

The samples of grain for distribution will consist of spring wheat (about 5 lbs.), white oats (about 4 lbs.), barley (about 5 lbs.), and field peas (about 5 lbs.). These will be sent out by the Dominion Cerealist, who will furnish the necessary application forms.

A distribution of potatoes in samples of about 5 lbs. will be carried on from most of the Experimental Farms, the Central Farm supplying only the Province of Ontario.

All samples will be sent free by mail. Only one sample of grain (and one of potatoes) can be sent to each applicant. As the supply of seed is limited, farmers are advised to apply very early to Dr. Grisdale, Experimental Farms, Ottawa, Can.

Value of Manure Spreader

Numerous experiments have been conducted to show the value of using a manure spreader. One notable one was conducted by a farmer at Newton County, Indiana, not long ago. Two tracts of ten acres on the same farm, and of as near the same kind of soil as one could possibly find were set aside for treatment with manure. One field was covered with a spreader. Another was covered with manure spread by hand. Then a third tract of five acres adjoining these two was planted to corn without any manure treatment. Where the spreader was used the yield was sixty-two bushels of corn raised to the acre at a value of $24.80 per acre. Where the manure was treated by hand the yield per acre was fifty bushels and the acre value of the crop was $20. The field which received no manure produced forty bushels to the acre at an acre value of $16. A similar experiment with clover on the same farm showed that the yield per acre where a spreader was used was just twice that of a field which had not been treated to manure.

Loyal Housewives

The *Weekly Press Letter* of the Arizona Agricultural College tells of a conservation meeting which was to be held at a schoolhouse in a secluded place in the mountains.

A heavy storm broke before the time of the meeting, which swelled the mountain streams to almost a torrent, cutting off the assembling housewives from the scene of the food meeting. The courageous and patriotic women, not to have their plans upset, halted on the banks of the stream only long enough to remove their shoes and stockings and bravely waded through the icy waters of the raging stream to the little schoolhouse in time to take part in the discussion of ways and means for producing and saving our food supplies. The men of Arizona will have to speed along if they are to keep up to the pace set by our loyal women-folk.

There are plenty of men outside of Arizona who may well put on speed for the same reason.

To Romance

By MARTHA HASKELL CLARK

I know not where you pitch your tent, or when you set your patteran,
Or where amid the hemlock-scent there broods your flame-lit caravan.

I only know one day you passed beside me in the village street,
And backward sent me at the last a sudden smile, so strange and sweet.

The little life I called my own, its very hour-beats set in line,
Seemed swift, so smug and soulless grown I could not think that it was mine.

And so I follow, follow still through silvered nights and windless dawns,
By birch-blown trail, and spring-blurred hill, set far from tidied streets and lawns

And sometimes down still wander-ways your green scarf flutters at the bend,
And somewhere through the warm blue haze I dream the gypsy chase must end.

Some luring trail will sudden turn, some firefly's little friendly lamp
Will thread the dim green forest fern, and lead me to your waiting camp.

—From the Outlook.

Keep The Wolf From Canada's Door

Only a New Government System Can Solve Our Financial Problems

By JOHN BAYNE MACLEAN

BEHIND everything connected with the war, behind the clash of battle, the recruiting of armies, the moiling of munition mills, there is a serious menace arising to which the average man gives never a thought. It is time that Canadians gave some consideration to this menace—our National Debt.

If the war lasts until the end of 1918—and it would be optimism of a fool-hardy order to suppose that peace will come sooner—Canada will have a war debt in the neighborhood of $1,400,000,000. This is entirely apart from our regular national funded indebtedness. Then it must be considered that each province has a debt of its own and, again, each municipality. It must further be considered that the Government has taken over the Canadian Northern Railway, and that other extensive government ownership proposals are under consideration. Experts say that the indebtedness of the country is likely to be increased by these ventures to the tune of $500,000,000, and, judging from the terrible results achieved with the Intercolonial, annual deficits of a staggering size may be expected.

When it is remembered that the City of Toronto has lost over $400,000 on a municipal car line just a few miles long and an average of $66,800 a year on a municipal abattoir, the possibilities of loss in large public ownership ventures can be shrewdly estimated.

Altogether, it is no exaggeration to assume that the total debt the people of Canada must carry will be in the neighborhood of $5,000,000,000,* at very lowest estimate.

Supposing that interest on this debt must be paid at the rate of 5½%—and it is quite possible that it will average a little higher—then it means an annual outlay of two hundred and seventy-five million dollars to meet interest charges.

Then there is the matter of war pensions. It must be reckoned that, for the next fifty years and more, the Dominion of Canada is going to pay out large sums to the families of soldiers who died in the struggle and to soldiers who were disabled wholly or in part. It is well within bounds to assume that there will be 100,000 claims on which pensions must be paid. Supposing that the average yearly pension is $300—a pitifully small amount—then the total paid out becomes thirty millions a year.

It will be interesting to translate this into terms of individual responsibility. There will be at the end of 1918 a little over eight million people in Canada.

Over that population will hang a total debt of five billion dollars or six hundred and twenty-five dollars for every man, woman and child in the broad Dominion! A man with a family of five can figure that his share of the debts of Canada is $3,275, and that he must directly or indirectly pay the interest on that amount.

It is difficult to figure what proportion of the indebtedness of Canada will have to be borne by direct taxation. Provincial debts are taken care of by the Provincial revenues, and the interest on municipal debts are figured into the local tax bill. As far as our national finances are concerned, the revenues of the country will take care of the interest on all funded indebtedness outside of direct war expenditures. It is too much to assume, however, that the ordinary revenues can be stretched to cover any part of our special war indebtedness. Certainly during the years immediately following the making of peace, there will be no surplus from revenue; losses on the C. N. R. venture may actually create deficits. This means that our war debts and probably also our pension bill must be carried by measures in excess of all ordinary revenue-raising measures. It is assumed by foresighted men that this means a direct income tax to be levied by the Dominion Government.

Translate this again into terms of individual liability and it becomes apparent that at least $15 must be raised by special taxes each year on every man, woman and child, on every foreigner, every pauper, every non-producer and non-payer in the country. It means that the burden will fall heavily on every man who is in a position to pay, the burden becoming heavier according to his income.

To the average man the war debt is a huge, intangible something afar off that the Government and the banks will see to and which does not concern him personally. But, when he discovers that he may have to pay anywhere from $50 to $100 a year as his personal contribution to that debt, then he is going to waken up and take a very real interest. The man of big income will pay up into the thousands and tens of thousands every year.

For that is what it means. Each responsible Canadian is going to pay for this war for many, many years in cash, hard-earned, dearly-needed cash. He is going to pay for it in thrift and increased production. He is going to pay for it in the sweat of his brow, in longer hours of work, and in restricted luxuries. He does not know this yet; but he will find it out soon.

If Canada were a country of restricted area, if our eight millions of people were cooped up into a country the size of Roumania or Bavaria, say, then this question of war obligations would be one of terrifying proportions. It would mean that only by the most exacting thrift and a dogged increase of production from the overworked soil, would it be possible to meet our debts. We would face a situation as dire as that which faced the poverty-stricken peasants of France at the close of the Napoleonic wars; and again after the debacle of 1870. Each Canadian would have to say to himself: "From now on I must not expect any of the pleasures I have known in the past. I must expect, probably for the term of my natural life, to work morning, noon and night, to subsist on the most meagre fare, to dress in the plainest garb, in order that I may eke out a living for my family and pay for my share of the taxes." That was what the French had to do. For twenty years after Waterloo the French Government had to pay 10 per cent. on all borrowed money! Imagine what that meant in taxes!

But, and lucky is the star under which Canadians are born, our country is one of boundless extent, packed from ocean to ocean with almost untouched resources, full of virgin territory for exploitation. We do not have to pay all this debt we have accumulated as part of the price of freedom by what we can wring by our labor from an unwilling soil. We can help out by realizing on our resources. If we get the right kind of leadership we can proceed to open up our country and let Mother Nature help us with our yearly tribute to Mars.

The situation will be serious enough. To economists it offers very grave possibilities. No patriotic and discriminating Canadian would, however, doubt the ability of the Dominion to carry her debt. A country of such inexhaustible resources and with such prospects of growth and development could assume a debt as large as ours will be. The Government can gradually refund the debt after the war at lower rates of interest, thus reducing the yearly interest bill. The increase of population — and Canada will grow rapidly after the war if the sluice-gates of migration are thrown open in Europe—will reduce the per capita proportion of the debt. In view of these possibilities the war debt would not be such a serious matter if it were certain that business conditions would continue after the war as they are now.

And there, after all, lies the great danger. If conditions become bad—and there are the gravest possibilities—then the carrying of this accumulation of war obligations becomes a tremendous strain. A young country enjoying prosperity could shoulder the debt with the ease of a lusty young soldier swinging his knapsack. To a country, struggling in the throes of depression, such a war load would become a burden almost intolerable.

It may be that certain conditions will arise to save Canada from the wave of hard times that threatens to sweep across the civilized world. It is by no means certain. Under no circumstances will we

Lieut.-Col. J. B. Maclean.

*The term billion in the United States is used to designate a thousand million. In Great Britain it designates a million millions.

feel it as badly as the European belligerents; but we may have our share.

There is no agreement among economists—or, what is perhaps more to the point, among the biggest minds in the business world—as to what will follow after peace is declared. Some see nothing but the blankest, bluest ruin, a world full of unemployment, with credits shattered and cobwebs on the wheels of industry. Others see business kept going by the stimulus of government control. All agree, however, that the situation at best is uncertain and that only the most enlightened attitude on the part of Governments can save the impoverished nations from deep misery and suffering.

And they are right. Consider the facts, the primary facts on which any consideration of the future must be based. After peace will come an almost complete suspension of the munition industry. Even if the peace arrived at were inconclusive, and another war seemed not improbable, the making of war supplies would not be carried on in any country at even ten per cent. of its present volume. In Germany practically all men, except those at the front, are engaged in some war industry. In Britain and France, the proportion is very large. Peace, therefore, would mean the dumping on the industrial market of many millions of workmen. It would mean also the commencement of the process of absorption of millions of soldiers back into peace operations. And this would come at a time when the buying power of an exhausted, breathless world was at a low ebb!

Could industry absorb scores of millions of men at such a time? If industry is left to bear the shock unaided, the answer is unquestionably, unreservedly, No! There would follow widespread unemployment and all that means—hard times, bread lines, soup kitchens, suffering, even starvation.

Against this dark picture there are certain factors which offer the possibility of escape. There is the need for reconstruction of Europe. France and Belgium, Poland and Serbia will need to rebuild and reconstruct and erase the tracings of war. This reconstruction will be on such a vast scale that only the State will be able to handle it. New towns and villages will spring up on the ashes and mounds that the guns have left, new bridges will have to be built, new roads laid. The operations will have to be undertaken with the credit of the various governments behind them. This will mean a demand even to keep the workshops of the world turning busily for several years. By that time industry would have had time to adjust itself and the world would have trodden gingerly, but safely, across this one narrow plank that spans the abyss. Such is the dream, and the hope, of the optimists. But it comes back to that one factor—adequate and aggressive leadership. The world will need to have constructive governments that actually do things, not the idle rich professional politicians who got us into this war.

There will be plenty of reconstruction work undertaken in any case and Canada and the United States will benefit mightily. The old world will turn inevitably for supplies to the new.

From the purely Canadian standpoint there is the all-important question of immigration to consider. It is on this that our greatest hopes are based. War-racked Europe may be glad to lessen her internal problems by opening her gates to such as desire to find food and employment in the New World. It would not surprise close students and observers if many millions of European immigrants came to North America in the few years immediately following peace. Canada would get a large share of this influx, certainly plenty to fill up some of our gaps out West, to break in new land and to increase our production.

In addition Canada can count upon a larger inflow from the United States of the very best kind of settlers, due in some degree to the feeling of increased amity growing out of our comradeship in arms.

The lessons of history show that, after all great wars, there has been a distinct migration westward. This was particularly noticeable after the American Civil War. Canada benefited greatly in that way after the South African War.

There would be the solution, ready-made, to our business problem. A growing population would mean a growing demand for everything and our increased agricultural production would provide the money to foot the bills. But—an influx of poverty-stricken immigrants into Canada would be a source of increased difficulty if the whole matter were not carefully handled by the Canadian Government. The new-comers would probably have to be put on the land, provided with the material to get to work and financed for a certain period until they could become self-sustaining. This would mean a new system of government credits—a system requiring very careful working out. Otherwise immigration would simply mean that we would assume part of Europe's burden in providing for indigent people.

It all works back to the same point. Canada can carry her war debt without undue difficulty if business conditions continue favorable. Business conditions can be kept good if we have the right kind of leadership.

Let us face this issue squarely. We have got to start right in and reform things at Ottawa. Our whole system is wrong there, wrong from top to bottom. Our Government as at present constituted is utterly incapable of handling the crisis that is coming. The Cabinet is made up of men of political wisdom and business childishness. Important posts are held by mediocrities, men who are incapable of grasping and coping with a big situation. It would be useless to turn the present government at Ottawa out and put the Opposition in. It would simply be filling the breach with the same brand of incompetence bearing different names. It isn't Borden that is wrong, nor, in the event of a change, would it be Laurier. It is the system that is wrong.

A cabinet is formed of the men who have the most weight in the party that happens to be in power. They are shuffled around and fitted into the most convenient job, without any real consideration of their fitness for that particular job. Thus we have Sir George Foster as Minister of Trade and Commerce, an orator filling a position that needs a hard-headed business man; Crothers, as Minister of Labor; Burrell, as Minister of Agriculture; Roche, as Minister of Interior—capable men in their way, but utterly, absolutely unfitted for these important posts. If the Liberals went in, we would probably get a somewhat similar distribution of misfits, politicians essaying executive work, the whole aggregation being perhaps a little better than our present one, or perhaps a little worse.

The failure of the party system has been established by the course of events in Canada since the war started. The men who should have been guiding us, seeing opportunities, sensing situations and meeting them have lagged far behind public opinion. They have done nothing or worse than nothing. The same ineptitude applied to post-war conditions will spell danger for Canada! And nothing better can be expected from any party government, Conservative or Liberal.

A new system is needed. It is the urgent, all-embracing need of the moment. Canada must have real leadership, not merely political leadership. There are to be found in Canada the counterparts of Sir Eric Geddes, that grandly dynamic Englishman who has taken a business training into the British Admiralty and revolutionized some phases of warfare, of David Lloyd George who remade the whole fabric of British life to suit new conditions, of Lord Northcliffe. They can be secured—the men who could take over the management of affairs and steer Canada through the rough waters that are ahead.

Are we going to let the party that wins the impending election go back to Ottawa and fill these important posts again with political hacks? If we do, we can say this to ourselves: "Soon there shall come upon us hard times such as we have never seen before. We shall have to work early and late for lower wages than we have made for years. We shall see our friends and neighbors thrown out of employment and we shall have to contribute to keep them from want and suffering. Out of the smaller earnings that we are able to make, we shall have to pay such heavy war taxes that there will be nothing left for us to save."

It is not too dark a picture! Only the most enlightened and aggressive handling of national affairs can save Canada from a position where her war debt becomes a burden for generations. And the kind of cabinet that either party can give us, recruited from party ranks, will fall far short of what is needed. The Government that faces the problems of peace must include the brainiest and most courageous, and the best trained men in Canada.

Editor's Note.—The above article was written just previous to the recent formation of a Union Government.

VIEWPOINTS

Looking at it that Way—[illegible]—well, maybe there's something in it

Disking versus Plowing

On an eight-acre field of my fram I had in the year 1909 a crop of corn which come within two marks of winning a prize in the Provincial Corn Competition, it being commended by the Inspector, L. H. Newman. The field was well plowed at a depth of about eight inches, and carefully prepared for the reception of the seed, which was planted by horse-power and dropped as uniformly as possible three or four kernels in a hill. The germination and subsequent growth of the plants was excellent, and throughout the season development, ripening, and general appearance of crop left little or nothing to be desired, the yield being about 100 bushels of ears per acre, with a good crop of stalks. Factors which reduced the marking were late planting and consequent immaturity at time of inspection, and also the fact that the corn (yellow dent) was not strictly true to type. The field was thoroughly cultivated during the season, but received no manure or other fertilizer. The land is surface-drained, clay loam, with clay subsoil.

My main purpose, however, is to show what pulverization of the soil may accomplish and to state the methods pursued. So complete was the cultivation of 1909 that in the spring of 1910 I merely went over the field once rather lightly with the disc harrow. I then drilled in about two and three-fourths bushels of oats per acre. This was all the work that was given, and the resulting crop of oats was one of the best I have ever realized. Whether or not this crop might have been yet greater had more work been put on, I am not prepared to say.

As early as practicable after my oats were harvested, watching a favorable wind, I set fire to the stubble, which was heavy, as the oats had somewhat "lodged" by storms and got a good burn, making a clean, mellow surface over a considerable portion of the field. I then decided to dispense with the plow for another crop, viz., fall wheat. I accordingly went on with the disc harrow, I must confess, however, with some misgivings as to the wisdom of the course. I disked the field seven times. First, a single cut lengthwise of the land, then double cut or half lap across; next, the same lengthwise; finally, the half lap across, completing the work. It was evident that a good, finely-pulverized bed had been secured, with probable immunity from winter "heaving," as the deeper stratum of subsoil was left intact and solid. Without any other harrowing or working, I drilled in my wheat on the disked surface, rolling even being unnecessary. Wheat was sown on the 15th of September, 1910. It germinated promptly, got good autumn growth, came through the winter with very little heaving, and looked well in the spring. The crop was cut on the 8th of July, 1911, and, despite the effects of drought, yielded, when threshed, an average of about 25 bushels per acre, of superior quality of wheat.

On the 25th of March I seeded the field with clover, which was a superb catch, admittedly the best in the locality. As the extreme drought so generally spoiled the clover seeding, to what other cause than fine pulverization of the soil can the success noted be due?

I do not wish to be understood as advocating the disuse of the plow; on the contrary, I think it must be regarded as the first and essential implement in agriculture. The only suggestion is that under some circumstances it may be dispensed with, and to advantage, as when, in our clay soil, the ground turns up in hard, almost unbreakable lumps if plowed, making after-cultivation extremely difficult, when the disc harrow can be rendered effective in giving better results at less labor and cost. In the case of the particular field under notice, I feel convinced that greater success was achieved than would have been possible had the plow been employed.—W. J. Way.

The Necessity of Fertilizers

In times of national stress things are wanting and these things have to be procured at no matter what cost. Wheat in Australia is less than a dollar a bushel and over two dollars in Canada. It does not pay the Imperial Government to bring wheat from Australia. It is not a matter of dollars and cents. It is a matter of ships and the most economical method of using them. Logically it follows that Canada must grow more wheat. Again it is not a matter of dollars and cents. It is easier and simpler, especially with agricultural labor at a premium, to increase the yield of existing farms than to break new soil and start fresh farms. This can only be done by putting fertilizers on the soil.

At the Exhibition (the Canadian National Exhibition which does the City of Toronto and the Province of Ontario so much credit) I was struck by the fact that, although there were thirty or more firms exhibiting agricultural machinery, there were only three stands advertising artificial manures. Very few farmers visited these stands to inquire into the merits of fertilizers, while hundreds were taking a keen interest and intelligently discussing motor tractors. The salesman at one of the fertilizer stands—himself a Canadian—deplored this neglect of the Canadian farmer. However, the farmer is not a fool and, as he has devoted all his power to his own business, he is more likely to be master there than those who would teach him, be they salesmen or scientists. The use or non-use of artificial fertilizers with the farmer is entirely a question of dollars and cents—results and returns balanced against effort and expenditure or better perhaps ready money available and profits expected. As more food, wheat especially, is undoubtedly wanted, to me it would seem true statecraft to distribute, at least, through the period of the war, free fertilizers to farmers and to spread the cost over the whole nation by leaving it for a future generation to pay. After all the only right functions of government, outside keeping law and order, are to confer benefits by using the superfluous wealth of the nation or if necessary to forestall and take this wealth by legitimately creating credit. This, too, is the function of finance, and finance under normal conditions is the government. In time of war the executive which has less initiative must replace the individual financier owing to its stability and the necessity of concentrating power in a few hands.

To-day we are being taught to "eat less food" and "buy government fish," both necessary orders to prevent the soldiers having to go short. Now I suggest, as more food is so urgently needed, that the Crown should on the advice of men who understand the subject either subsidize the manufacture of nitrates or should—and I think the latter course the better—undertake to purchase such artificial nitro-products as cyamid, oxamid, sodium cyanide, ammonia sulphate, artificial urea, etc., at a price which would give a fair profit and then give them away or resell them at a sufficiently low price to make their purchase by farmers a certainty. I do not believe the resultant loss would be a very large one, while the gain to the country in establishing manufactories of chemical manures and at the same time educating the farmer to use them, would be enormous. The wheat yield, needless to say, would be doubled.

Before the war and even after the war had been going on some time it was not commercially feasible to produce nitro-products from the air by electricity. It would have been feasible if the price of a horsepower from water could have been got at two-thirds of the present cost. They seem to have got over this difficulty at Niagara and are producing cyamid in large quantities. But a lot more work has to be done and a lot more thought and study given before we are going to have unlimited supplies of fixed nitrogen from the air. Great advances have been made in laboratory experiments for the fixation of nitrogen. Two great successes are reported—one from England and the other from the United States. Both are entirely on different lines. One is a successful experiment in breeding and being able to keep indefinitely in a suitable medium the bacteria that extract nitrogen from the air and furnish it to plants. Its success on poor sandy soil and its comparative failure on land in a high state of cultivation seems to point out that nitro-bacteria have enemies which destroy them and increase as they increase. The other inquiry into the fixation of nitrogen into the air is on a more practical basis at present. It has been found that if powdered coke is mixed with powdered iron (or powdered iron ore) and soda ash and the whole heated in an ordinary furnace, cyanide of soda is formed, leaving the iron untouched so that it can be used again and again indefinitely. Cyanid of soda by treatment with steam will pass into bicarbonate of soda and ammonia, and the latter is fixed nitrogen, capable of conversion into nitric acid or fertilizer or any one of a thousand other things. By dissolving the cyanide of soda in water and passing carbonic acid gas through the solution, urea is formed. Urea is

three times as rich in nitrogen as sodium nitrate, twice as rich as ammonium sulphate; both these are used profitably by farmers. Moreover, urea will not make the soil acid and it gives surprising results as a fertilizer. By comparatively simple method oxamid can be formed from the soda cyanide. As oxamid contains thirty per cent. nitrogen and, being almost insoluble, it is not washed out by rain and is, therefore, an ideal fertilizer.

I have tried to point out in the foregoing notes that the problem of the deficiency of nitrate can be easily solved. It is most urgent that either the government or independent financiers take up the question at once of making nitro-products for fertilizers. Other constitutents of fertilizers are less important. Lime can be always used to advantage when there is no deficiency of nitrogen in the soil. I have never been able to understand how bone-meal, superphosphite, and the like command such a sale as they do. Nearly all soils contain sufficient phosphates to last from 500 to 1,000 years. A farmer need not use phosphate on land more than once in his lifetime. With potash it is different, and although growing crops do not take much potash out of the soil, one part in a thousand of soil with small renewals every few years gives the best results. Most soils have not sufficient potash, but they will have to do without it (as much land has done without added potash in the past) till we conquer Germany and secure her potash deposits as a part indemnity for their having started this war.—John Bensley Thornhill, F.R.G.S., Toronto.

Liked Tractor Article

We wish to compliment you on the able manner in which you handled the tractor situation in your October article, "If a Tractor—Which?" The viewpoint from which you are judging these machines is one not commonly taken among the agricultural press in Eastern Canada, but one which shows your earnestness in presenting the true attitude toward tractor power.

The serious labor shortage on the farm, the exceptionally hard soil conditions in most parts of Ontario due to a continued dry spell, and the necessity of increasing the food-production of the country make, to our way of thinking, the tractor problem one of the greatest of to-day.

The Ontario Department of Agriculture, and especially that indefatigable worker, Mr. C. F. Bailey, deputy minister, are to be most heartily congratulated upon their efforts to give to the farmers of this province the benefit of tractor knowledge and tractor operation. It is impossible to appreciate what they have done for the food-consuming people of this province.

To the same degree the Dominion Department of Agriculture should be condemned for their lack of interest in ignoring this problem of tractor production. While England is buying thousands of tractors to help in their food-production, while France has made grants to farmers to assist them to purchase tractors at reasonable price, while every Allied nation is deep in the tractor problem, Canada stands by and ignores the greatest innovation that has been yet offered to bring up the food supply to its proper standing.

We trust that your efforts along these lines will bear fruit and that the aim for which you are working will be accomplished.—R.G.M., York Co., Ontario.

Bettering the Little Red School

An important step forward in the interests of the rural schools of Canada will be taken when the present school boards are supplanted by boards that represent an entire township. At present three trustees from each section manage the affairs of the section. No criticsm is offered of the work done by these men. It must be remembered, however, that they serve very often with considerable reluctance and with but little enthusiasm. The result is that the school work is frequently done half-heartedly and imperfectly. Further, a township with a population of one or two thousand is served by a couple of dozen or more trustees while a large town or city does its work with less than a dozen on its board.

The first advantage gained by the larger board is that the educational affairs of the section are more removed from local prejudices than when the board is purely local. No trustee cares to excite the dislike of his neighbor and for that reason he may condone or avoid matters that he otherwise would treat differently.

In the next place there would be the advantage of monthly meetings of the board. At this meeting reports from each school would be received and the inspector's judgment thereon would be forthcoming. In this way each school would be kept in hand, "drift" would be prevented and each teacher would find himself doing a work that is really worth while.

The further matter of the purchasing of supplies for the schools is to be thought of in this connection. With the enlarged board there would come the advantage of supplies being purchased by one central body. As soon as the inspector makes his request the board, at its regular meeting, would order the purchase. In this way delays in getting supplies the teacher sorely needs are obviated and the children are not kept back through the tardiness or the incompetence of any one trustee.

This board should be elected contemporaneously with the township council and it should consist of a like number of members. The township clerk might well be the secretary of the school board.

It is readily seen that only good can come of such an arrangement. The township board would have before it a real educational policy. The teacher would not feel himself at the whim of any one ratepayer who otherwise might interfere with the good of the school. The teacher would be no longer the servant of one section, but under the direction of a board that represented a whole township. Further, a teacher may under this arrangement be placed where he can serve best. In one section of the township he may not serve as effectually as in another, and the board may, with the approval of the inspector, place him where he may give the best that is in him to the best advantage. In this way there would be a tendency to keep teachers longer in the service of the township, and more uniformity of a helpful character would be found in the work of the schools of the townships.—John Kyle.

Beet Top Silage

With feed prices three times what they were ten years ago, more care should be taken of beet tops. An acre of beets will produce from 4 to 8 tons of tops. In a test made at the Colorado Experiment Station some years ago, beet tops made into silage without the addition of straw, showed a value for feeding dairy cows almost equal to corn silage, which is usually considered worth $6 to $7 a ton. The beet top silage was a dark, coffee color and was not eaten as readily as the corn silage, but seemed to give as good returns for feed consumed. A number of feeders made beet top silage last year and obtained excellent results from feeding the silage to steers.

The easiest way to make this silage is in a trench silo 6 to 8 feet wide, 6 to 8 feet deep, and as long as may be necessary. The ends are sloped so that wagons can drive in, over the tops, thus packing them down. Alternate layers of straw may be put between layers of tops. Straw takes up some of the moisture from the tops, thus improving both feeds. When the trench is full, it is covered with straw and earth. The silage is cut out with a hay knife and taken out from the end.—Chas. I. Bray.

Why Silo Gas Kills

Each year we have a recurrence of fatalities in the partly filled silo. Green corn, as soon as it is cut into the silo, starts to ferment and there is produced carbonic acid which readily divides into water and carbon dioxide. Carbon dioxide is a poisonous gas which kills almost instantly. It is commonly called carbonic acid gas and, being heavier than air, sinks or remains on top of the green corn or at the bottom of the silo.

It is a simple matter to make the silo safe to enter when it is partly filled with green corn or any other substance used for making ensilage. If it is desirable to put in all the doors of the silo before starting to fill it, then no one should enter the silo until the cutter has been running for a while. The entrance of the freshly cut corn into the silo stirs up the gas and it escapes over the top of the silo. If the doors are not put in faster than the silo is filled, this gas flows out as rapidly as it is formed and there is no danger in entering a silo if there is an opening not far above the level of the silage. If the openings of the silo are far enough apart to permit holding a layer of gas as deep or deeper than the height of a person, then there would be the same danger in entering a silo before the machinery starts as there is when all of the doors of the silo are put in before starting to fill it.

$100 Per Acre From Wheat

An exceptional piece of wheat was grown on J. A. Campbell's farm near Dauphin, Man., this year. The threshing machine showed a yield of 53 bushels for some of the grain. Such yields are rare but 30 bushels has been quite frequent.

Hydro Threshing

Frank Shuh of Kitchener was the first farmer in that district to do his threshing with Hydro power. A 20 h.p. motor and transformer mounted on a truck was taken to the farm.

Actress Has Jersey Herd

Miss May Irwin, the Canadian actress of fame, who married Karl Eisfeldt, has purchased a farm near Clayton on the St. Lawrence River. There is now a herd of 15 registered Jerseys on the farm. A new bungalow will be built next year.

When the Gods Judge

A Thrilling Story of Mystery and Magic

By W. A. FRASER

Author of "Mooswa," "Thoroughbreds," etc.

Mr. Fraser is one of the foremost of Canadian authors, and perhaps best known for his stories of Canadian life. He was, however, a resident of India a number of years, and knows that land of strange races as few writers do. Here is his most recent Indian story, pregnant with all the mystery of the land. It is one of the best he has done, certainly the best since he has come back from retirement and again taken up his pen.—EDITOR.

AT the bottom of the little hill down which Arundel Street wanders from the Strand to the Embankment stands the Arundel Hotel. As you pass through the rotunda on the right is a door upon which hangs, of a Thursday evening, a card bearing the legend, "The East India Club."

Notwithstanding this portentous name this club is a very simple social coming-together of men who have travelled. Its official staff is Hoskins, editor of the *Windward Magazine*. The gavel of the club is a briarwood pipe.

It was at one of these club meetings that Major Gray told his story of India. There had been some discussion over the mysticism of the East. Hoskins had said: "Mysticism is the dominant note that comes from the Orient to us—that fascinates us because in our *ultra* materialism we cannot understand it."

"What has been your experience, Major Gray?" the Australian asked. "Did you ever see any of those esoteric tricks?"

Somehow the Major suggested a rat trap, or, if one carried on to something animate, a fox terrier. He was small, lean, and obviously tough as whalebone; the formation of his skull suggested a hardy efficiency rather than overbalancing mentality. Now he drew his pipe from his lips with a sweep as though he were drawing a sword, and answered: "I never could understand the Yogis. And that's what it always comes to, the white man, if he's honest, has simply got to answer, 'I don't know'."

"Did you ever see anything yourself, well—mystical?" questioned the Australian.

The Major replaced his pipe and puffed meditatively. Presently he removed it from his lips and said: "I'll tell you a true story. I warn you that it will leave you just where you are now—in the dark. It did me."

THE MAJOR'S STORY.

I was in forestry work, and on my way across country swung in to Darpore to stop a day with an old friend, Major Finnerty, of the Elephant Khedda.

When I reached Finnerty's bungalow he was over at the elephant lines, but I was expected, and his butler, Boodha, showed me into a room and, of course, brought me a whisky peg.

I'll describe the room for, even at first, it struck me as being unusual. The bungalow itself was located in a mango tope; these big trees with their heavy glossy leaves making a dense shade that added to the cool sombreness of the massive brick whitewashed walls. The room I entered was a wing. In one corner was a massive fireplace suitable for burning logs; near this was a door opening into the bathroom, and from that again an open door showed the outside. I'm not given to nerves, I assure you, but somehow—perhaps it was the cool of the room after the hot ride—I absolutely felt a chill creeping up my spine.

I was waiting for Abdul, whom I could hear out on the verandah rowing with the butler about something. I was standing facing the window, from which stretched away the road, taking a pull at the refreshing whisky and soda as Abdul entered the room with my tin box on his shoulder. At that instant a wailing moan came out of the black maw of the fireplace, and with a cry of terror Abdul jumped from under the box, which came smashing to the cement floor.

Of course, I turned on him with some useful and expressive words of Hindustani on my lips, but his livid face stopped me; I never saw a chap in such a blue funk.

"What's the matter, *pagle* (fool)?" I asked angrily.

Of course, he had the usual native answer. "I'm sick." Said that the chill of the hills had struck his liver. That if his lord and master—the same being myself — would give him leave till tomorrow he would take some medicine.

He was an abject-looking object and, of course, I had to let him off.

I turned to have a look in the fireplace, thinking it might perhaps be a tucktaw or an owl, but I could see nothing, and concluded it was just the wind blowing down that old chimney.

The butler and Finnerty's bearer brought in my traps, and even then I fancied there was something subdued, rather twitchy, you know, about their way of going. Well, I managed to get a change—I didn't have to dress; there was no memsahib, Finnerty being a bachelor.

After dinner the Khedda Sahib and I got into two arm chairs on the verandah for a buck about old times and a smoke. We chatted about pig, and plans for the next day, and the Major's work, and after a bit he rose from his chair, saying, "I've got to write a report. We caught a couple of wild elephants in our pits, and for the next month or two I'll be answering correspondence from devilish clerks as to how many teeth the elephants have, and how long are their tails, and particularly do these captives prove that the pit system is better than noosing or driving them into a khedda. I won't be long."

When he had gone I smoked my cheroot for a bit; and then concluded I'd go down to the stable and have a talk with Dewan. I must say, gentlemen, that Dewan was an Arab pony. But if there is a creature in the world that is a gentleman, it's a high-caste Arab pony They're a royal breed by themselves, and Dewan with his silken coat of the purest silver-white was a king even amongst Arabs. I could ride him straight as a bullet on to the mightiest boar that ever wore tusks, and that's something a tiger won't do—go straight at a boar.

The stalls were in a row, and in front of the doors was a long leaf-thatched screen to keep the ponies from being disturbed. I slipped quietly in at the end between the stalls and the screen, and made my way along, peering in each doorway till I saw the white figure of Dewan. He gave a little whinny of welcome. That he was standing up told me that there was something wrong.

Speaking, so that he would be sure by the voice, I stepped in beside him. With a sigh of content he snuggled his velvet muzzle against my cheek, and showed me what was amiss by lifting a forefoot. I ran my hand down and discovered trouble; the syce had not slacked his bandages, and the wise little chap knew that to lie down might lame him. As I loosened the bandages I heard voices just beyond the screen, and saw the flicker of light as someone built a fire. It was a double stall, and my other pony I found was all right.

Stepping to a hole in the screen I peeped through. By Jove! Talk about miracles and the healing of the sick. There was Abdul, who before dinner had been a decrepit wreck, standing as full of swagger as I had ever seen him. Finnerty's syce, Baloo, was building the fire, while a couple of other servants, also the butler, had now squatted around a bubbling hookah.

I must say that I had devilish little compunction about listening, considering the bally rotten way Abdul had treated me. As happens all listeners, the first thing I heard was about myself.

Baloo was asking, as he tipped the cow-chips on the edge that they might burn more brightly: "Does your sahib sleep in the room that is of ill repute, Abdul?"

"The Presence sleeps in the room that is for guests; what is that to thee, thou son of a grass cutter? Will Baloo share the sahib's bed?"

"The sahibs can do all things, Abdul, but can they sleep where the dead cry out in the night? Tell me that, brother."

"Why should the dead come to that room—the room by the road, Baloo?" an aged Hindoo queried.

"I, Baloo, say it, Kedar Yogi, and it is a true talk. Ask Boodha there about the sahib who rushed out of that place half way of the night with fear in his eyes. And Boodha saw over the sahib's shoulder the *Bhut* (ghost). Is it not so?"

"True in a way, Baloo," Boodha answered, "as to the sahib coming forth in his pyjamas—and at that time there was a memsahib in the bungalow—but

Continued on page 53.

Making Buying Safe and Easy

HOW ADVERTISING SAVES AND PROTECTS THE BUYING PUBLIC

DOES the average person ever stop to think what a safe and easy thing buying has become in our day?—What a contrast to the way it used to be within the memory of most of us?

This applies to all buying—of necessities, of luxuries, of everything.

JOHN SULLIVAN SPEAKS

Mr. John Sullivan, Secretary of the Association of National Advertisers, in a recent interview, said some things on this subject which should interest every buyer in the world. For his words apply to the purchase of anything, from a 5 cent cake of soap up to the most expensive advertised article.

"To-day," said Mr. Sullivan, "the housewife sends her little child to make purchases at the corner grocery. She sends her with perfect confidence that, even though a child, she cannot err therein. All that the child needs is explicit instructions to buy THIS or THAT. In the case of all staple produce the price is known, the quality is known, and the NAME is known. There is practically nothing about the goods that is unknown. And to be sure of getting exactly what you want, it is only necessary to name the goods.

"It is the same in other stores of nearly every kind.

WHEN BUYING WAS A HAZARD

"What a contrast to the days of our fathers, when practically all buying was a hazard—impossible for the child and risky even for the parents!

"In those so-called 'good old days,' soap was just soap, prunes were just prunes, coffee was coffee—and so on through the long list of things that are used in every home.

"In no case was there any guarantee of quality—or any sure way to identify goods that might have proved satisfactory so that the same goods could be bought again. The whole buying game was just a game—a game and a gamble; with all the odds against the buyer.

THE COMING OF THE TRADE-MARK.

"Then gradually, step by step, came the great change. The TRADE-MARK began to appear—a positive means of identifying goods. And with the trade-mark came ADVERTISING on a national scale—the best, the surest, the cheapest, the only efficient way of making the merits of these goods known to buyers everywhere.

"Trade-marked merchandise was soon found to be good merchandise—worthy of every buyer's confidence.

"In fact trade-marked articles have got to be good. The trade-mark identifies them, advertising proclaims them, and use by thousands and millions make their qualities positively known. Only first-class merchandise can dare to court such a test. A well-known trade-mark is an asset of priceless value for a good article, but it would be sure death for a poor one, for in that case it would be not a guarantee but a WARNING to the buyer. It would help him to identify the bad as well as the good; to avoid the one and choose the other.

"The greatest achievement of modern advertising is that for the first time in the history of the world's merchandising it protects the buyer; it makes buying both easy and safe. The value of every trade-mark depends on the good will of the buyer, therefore this trade-mark, which positively identifies the goods, for better or for worse, is the buyer's sure and certain guarantee."

FOR THOSE WHO TRAVEL

Mr. Sullivan could very well have gone on to say something about the way advertising has simplified buying for those who travel, or those who shop elsewhere than at their own regular stores. Advertising has distributed the merchandise of general demand so thoroughly that wherever one goes, he may obtain the articles he is familiar with at home, at the same price. So there is once more protection and ease in buying.

THE FUNCTION OF ADVERTISING

The whole function of modern advertising is to acquaint the public, for its protection and convenience, with standardized, identified goods, sold at a fair price, and at a price which is practically universal the whole country over. The economics of advertising is a big and fascinating subject.

Plantfood Requirements of Wheat

While it does not require half as much plantfood to produce a good crop of wheat as it does to produce a good crop of corn, there are few crops that will respond more bountifully to a liberal supply of readily available plantfood than will wheat. Wheat is not only a shallow feeder but it must make its growth in a comparatively short season and so should have at hand an abundance of immediately available food. It cannot utilize manure as well as the grosser feeding and longer growing corn crop. For this reason it pays best to use the manure on corn and commercial fertilizer on wheat. Unless the land is already rich or has been heavily manured for the immediately preceding crop, it should ordinarily be treated with a fertilizer carrying all three of the principal fertilizer elements —nitrogen, phosphoric acid and potash. A 30 bushel wheat crop requires for the grain and straw about 42 pounds of nitrogen, 20 pounds of phosphoric acid and 30 pounds of potash.

Just what should be used will depend upon the local conditions as regards the kind of soil and its principal deficiencies. In any case it should be borne in mind that it will probably pay better to use liberal amounts of fertilizer on wheat this year than in ordinary times, because wheat prices are likely to remain high and it will not require much increase in the yield to pay for liberal fertilization. —A. T. Wiancko.

Soil Needs Lime

While starting the tractor outfit on Mr. Kernahan's farm, we made a test of soil in several fields for acidity and found one field in particular to be very much in need of lime. Mr. Kernahan is taking steps to have lime applied so we will have the opportunity of observing what it will do. There are many acres not far from this farm where the soil contains a considerable amount of acidity, so Mr. Kernahan's experiences may result in a movement in regard to liming.—H. C. Duff.

A Modern Fable

Early in the spring an industrious hen laid fifteen eggs and promptly began the task of incubation. In due time five pullets and ten roosters were hatched. After teaching them to scratch for themselves, she laid some more eggs and hatched another brood. Finally they were able to take of themselves, and one fine morning the mother remarked to herself:

"Now I've worked pretty hard this summer and I'm going to take a day off and see what my other children are doing."

She soon found the pullets, but could see nothing of the roosters. Leading the way behind the barn, out of hearing of the rest of the fowls, she cautiously asked:

"Girls, where are the boys?"

"Why, mamma, haven't you heard?" asked one of the pullets. "There was a Methodist conference here last week and the boys all entered the ministry."

They Are for Peace

The Peace River district is benefiting from a revival of immigration from the United States, and this season it is estimated that fully 75,000 of a very desirable class have come in and taken up land, or double the number who entered last year, says E. L. Pease, of the Royal Bank.

MADE IN CANADA

Be Prepared!

Mothers and daughters must needs guard well their health in these times of stress and overwork.

This means that the causes of depression and stomach troubles must be counteracted promptly—before the symptoms of breakdown have time to gain ground.

Lack of exercise, too close application to household duties, inattention to dietary—these and many other causes contribute to the incomplete working of the stomach. A healthy, busy mind can exist only when the bodily health is unimpaired.

Once let the stomach and digestive organs get out of order, and the result must always be a feeling of lassitude and weariness which seriously interferes with the performance of your household tasks. Guard your health by means of the simple, natural remedy that is within the reach of all.

Parmelee's Vegetable Pills can be assimilated by the most delicate stomach. They are easy to take and cause no nauseating feeling whatever. Their action is mild, yet their operation is sure and speedy. Parmelee's Vegetable Pills leave no unpleasant taste in the mouth. They are so compounded that while certain ingredients in them are planned to work on the stomach and liver, other ingredients do not operate until they reach the intestines. This ensures a thorough cleansing and purifying of the entire system.

It is the part of wisdom to keep a box of Parmelee's Vegetable Pills always in the house—because they are the known and proven remedy for purifying the blood and keeping the stomach in a sound, healthy condition.

PRICE 25 CENTS

AT YOUR DRUGGIST'S OR DEALER'S

Northrop & Lyman Co., Limited

TORONTO, ONTARIO

Have You A Spring On Your Farm

If so, does it provide you a constant supply of water **in your house** at no operating expense? Your spring plus a Deming Ram will do the work.

Write for special bulletin No. D-1

Darling Brothers, Limited

Montreal, P.Q.

DEMING RAMS

Womens' Organizations

The Rural Community and Public Health

By DR. ANNIE BACKUS

This article is reprinted, in part, from an address delivered by Dr. Backus at the Ontario Women's Institute Convention last year. It brings before the various women's organizations in the rural districts of the Dominion a line of work which cannot be overlooked without endangering the health of their families however carefully they may be protected in their own homes.—Editor.

HOWEVER sanitary and well managed the home may be the home is only the unit, and important as it is to have home conditions right, we must go outside of the home when we consider public health. Health should be the birthright of every child, and if parents would bestow as much thought and care to giving their children the inheritance of health that they do to giving them the inheritance of wealth it would be better for both parents and children. When death, that relentless destroyer, enters the home, how desperately we fight him; but there is a worse thing than death, and that is ill-health—to become a burden to oneself and a menace to one's friends. To go through life at the tail end of the procession burdened with disease, that is worse than death.

And in so many cases disease is avoidable—in fact in most cases. A few years ago it was a well established fact that the people living in the country were healthier than the people living in the cities; but something happened. The death rate among children in the city had reached such startling proportions that women got busy. The Council of Women entered a protest, something must be done to save the babes and children. And something was done. Health officers were wakened out of their slumbers. What was the cause of this enormous death rate? The cause was sought and discovered and dealt with, and with such success, that to-day conditions are reversed, and the death rate in the country is greater than in the largest city. And mark you, it is not because child mortality in the country has increased, but that through proper sanitary conditions brought about under the supervision of the health officers, child mortality in the city has been lowered.

The natural conditions in the country are in favor of health, then it must be something in the made environment which enables the city babe, the city child to enjoy better health than the child in the country. And so it is our business, we the women of the rural districts, to discover what is wrong and to correct that wrong in our midst. Never in the history of the world was the conservation of life so important. That great sprawling monster in Europe with its tentacles in France, in Belgium, in Russia, and in the Balkan States, that murderer of babes and women, that creature smiling over the debauchery of nuns and innocent girls, that slaughterer of priests and neutrals, that thing of evil, to destroy which our brave men are giving their lives; it is depleting the world of its inhabitants so rapidly that we are staggered to think what must follow this terrible war. We must put forth every effort to save the babes and the children, and also increase our own efficiency, health is efficiency.

We have heard much in the past concerning German efficiency; the death rate of babes in that country is the highest in the world, and it is the only country where child suicide is prevalent. It might not be out of place at this time to mention that in those countries and states where women have the most political power, the lowest death rate prevails. Far be it from me to speak of a subject so peril-fraught as "Woman's Suffrage." But in those states where women have the power through the vote, they have been enabled to bring about such legislation concerning mothers and children that infant mortality has ceased to be the terrible thing it is in those states where women are politically powerless. However, when the Ontario Government introduced Women's Institutes, it placed in our hands a power to help ourselves and our children, and we must here to-day at this Convention consider how best to use that influence. Can there be a better way than in conserving health and life? The country child is entitled to every chance for health and life that is given to the city child, and if it does not have it someone is to blame; let us see to it that the women are not to be the ones to bear the reproach.

Among the first things done by the health officers in their campaign for the welfare of city children was an investigation of the milk supply, and they found thousands of babes were dying because of impure milk. It came in cans half cleaned, was taken from dirty cows in a dirty way; was left in open vessels in the impure air, and, of course, the result was dead babies. Then came the investigation of the houses—crowded tenement places, one water tap for several families, the water carried in old pails by small children, all the family drinking from one drinking cup, no lavatories; men, women and children using the same closets; in fact all the outhouses unfit for human use. The result was unhealthy mothers and feeble little children. After this came the schools.

Conditions were examined and medical inspection followed, and when the milk supply was made pure, the houses cleaned up, lavatories put in and the water supply corrected, then came the lowered death rate. In rural districts it is easy to get the pure milk, the clean water, but there is much negligence shown concerning the out closets in the private houses and schools, and there is no question about it, this negligence is the cause of much ill-health.

Perhaps our greatest difficulties will be

found in trying to improve the conditions of our public schools, but we must "gird up our loins" and face these difficulties. Of course we must take the chances of being called meddlesome, and of trying to "butt in," and trying to do men's work, but when they have made such a mess of things as they have in our public schools, it does not matter. We must try and save our children. And let me tell you many of our rural schools under the present management are distributing points for the manufacturing and spreading of disease. "Keep down the taxes and increase the death-rate," is the unpublished motto of too many rural school boards.

You probably could not find twelve men (including those on the school boards) who are giving as much attention to the sanitary conditions of their public schools as they are giving to the sanitary conditions of their stables. We want sanitary conditions in the stables, what we do mind is that men accept positions on the school boards to the exclusion of women who would fill the office better, because a woman — and particularly a mother—is going to look after the health of her children, even though it increases the taxes.

The first move to make in this effort towards the improvement of health conditions should be in the rural public schools. We have learned what it has done and is doing for the city child. Medical school inspection has given the city child advantages over the country child. But if we understand country women at all, this state of things will be changed, and as the best of everything comes from the country, so we will find the best of health in our schools and in our homes.

The women in the rural districts can help to promote public health by insisting upon sanitary conditions being brought about; first in our own homes, next in the public schools, and in all the public places where women and men assemble.

Dinner For 100 Guests

Now that church socials, school programs and picnics are in order, it is important to have enough food for all, but equally important not to have quantities left over. The following are the quantities of materials which a famous chef recommends as sufficient for 100 guests:

Three and one-half pounds of coffee.

Six gallons of cocoa made from three gallons each of milk and water and one pound of cocoa.

Four pounds of loaf sugar.

Five gallons of oysters.

Two hundred and sixty sandwiches, made from sixteen loaves of bread and four pounds of butter.

Thirty pounds of ham, to boil and slice.

Ten medium sized cabbages for coleslaw.

Twenty pies.

Five loaf and five layer cakes.

Eighteen quarts of ice cream.

Ten four-pound chickens and thirty heads of celery for salad.

Five chickens and five tongues for sandwiches.

Five quarts of dressing for salads.

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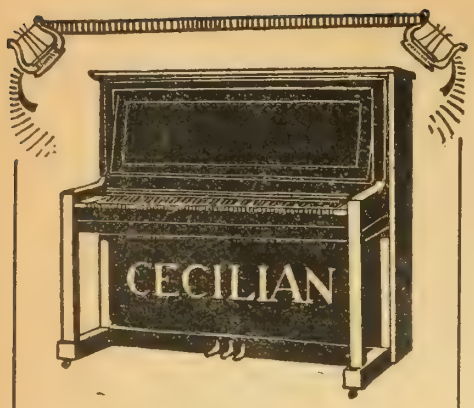

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Under its delightful influence life assumes a brighter outlook, petty differences are forgotten and the spirit of good-will predominates.

It is on the farm perhaps more than anywhere else that the benefits of music in the home can be best appreciated.

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247 Yonge St., TORONTO

Music in the Home

This department is opened in order to give some prominence to what has come to constitute a large part of our rural homes—music. No house is complete without some form of music and music is confined to no form or to no instrument. The joys of song, the beauty of the human voice, the music of children, the divers instruments that furnish sweet sounds, all soothe as well as write the histories of our national joys and woes. In ancient times we read that the wine press was trodden and the vintage which closed the harvest, was gathered with a song. The farm home of Canada that carries no music in it, is either deserted or brewing discontent.—Editor.

Songs and Melodies That Live

By ROSE MORGAN

THE child who grown old finds himself in possession of the blest traditions and memories of the places and things of his childhood, enjoys a legacy whose worth increases with the years, whose meaning unfolds with life. Probably there is no form of early home influence more enduring than the home song; and its power is continuous in proportion to the place it occupied in that early home influence. The home song, therefore, should be fundamentally a thing of truth. It should not be the woven tinsel of fancy and sentimentality, but it should be composed of words and melody that are coined from the heart's pure gold. Such a song lives. There are few homes in Canada where a good song, if once it became installed, would not be appreciated, and there is no home that would wilfully cancel or lose the power of that song as a memory-maker and as a character-builder. Unworthy songs have crept in not because our home-making hearts are wrong but because our home-making heads and hands are so full of the work of the insistent present and the foreshadowing future that we do not often stop to weigh the values in songs as in other things.

It is true that most of the cheap and vicious songs originate in cities, but all too quickly they find their way into rural communities and homes. The "fear of not being up to date" in the matter of songs, and the eagerness to have country homes and boys and girls enjoy what purports to be created for the giving of pleasure as exploited in the city, has set country people to hasty and indiscriminate buying of "the latest" music. The unworthy type of city music has been adopted, and it has been called representative; the vast amount of worthy music that is heard at its perfection in the city has been temporarily forgotten. Think of the church music, the operas, symphonies, and oratorios, the concerts and recitals of high grade! Many of these musical entertainments are free to the public and are even organized to be carried free to every part of the city. Think of the great choral societies, the carefully taught music in high schools and graded schools, the chances for the best of training in every phase of music—all of which tends to shorten the life and the influence of the bad song in the city, even though its spread is universal.

WILL IT LIVE?

We do not sing songs merely because they have lived. We sing as a mode of self-expression; and if the song that is new to our ears and possibly newly created answers us, we sing it with much the same right that we use in adopting the style of the hour in house-furnishing or in dress. There are few of us, however, who fail to appreciate that a song, by its very nature, is more a matter of the spirit than is dress, and singing a more permanent influence in the home than is house-furnishing. Yet we are careful to-day to teach ourselves that the home that is artistically furnished, however simply, has a moral advantage over the home that is filled with the useless and the unbeautiful; and that the latest fashions in dress may make of us caricatures of our real selves if in adopting these styles we forget that clothing should indicate self-expression as well as conformity to mode. This second test of a song, "Will it live?" refers to the modern song and includes an answer to the question, "Are there no good popular songs?"

THE POPULAR SONG.

The vogue of the present day popular song is due to its "ragtime," pretty, often very pretty, and full of sprightliness and suggestion. The word-maker knows this and the suggestive rhythm of "ragtime" seems to be his license. The "ragtime" becomes the color, gaudy but attractive, when skilfully used; the words —what do they become in this song which is claiming a place in the home as expressing the spirit of that home? Study them, read them separated from the tune. You will know if that song be not the dime novel of music. Its very tune, pretty as it may seem with its tinkly rhythm, is bad because it suggests and supports words that should never have been printed, much less sold or sung.

Study again some of the songs and ballads that have lived. Many of them were at one time so-called popular songs and

"best sellers." Why did not they, too, perish within the year of their birth? Read their words separated from their tunes. Now take the tunes and see if they were once popular merely because they tinkled; is there not something more there than the suggestion of a clog dance? Compare these century-old songs that were once "best sellers" with the popular songs of to-day that have crowded them out. The result of this comparison will be a thinning out of the songs on the organ or piano, and many of the latest hits will go to the flames at once.

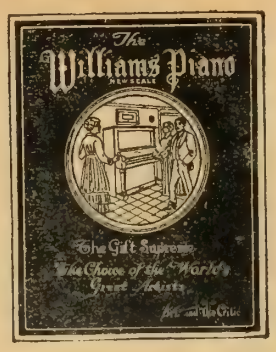
OTHER MODERN SONGS.

The unworthy popular song, though threatening a defeat of our good sense and musical taste, does not claim the whole field of modern songs by any means. Do you know Ethelbert Nevins' melodies for Eugene Field's and James Whitcomb Riley's words? Do you know the songs of Coleridge Taylor and of MacDowell, of Cowen and Cowles and Buck and Homer and Denee, and of Mrs. Beach and Margaret Ruthven Lang and Carrie Jacobs Bond? These names are but a few from the list of modern song writers. Apply your songs-that-have-lived yardstick to their songs and discover how well you invested when you brought them, or the phonograph and Victrola records of them, into your home. Get more of the songs by these writers along with the time-tried ones that "age has not withered nor custom made stale." Remember that modern songs whether popular, semi-classic, or classic, that merit the will-live stamp, will in time become songs that have lived. Remember, too, that we are not always to be the people of a new country, bearing the more or less just jibes put upon us for not being able to sing a single national song through without the text before our eyes.

Use good-song standards, measure your songs by these standards, learn them, sing them. The country home, with its agricultural "backbone of the nation" to keep straight and to make use of, has a privilege and a duty to perform in the founding of a musical system that will bring credit to this continent from the nations that now choose to judge us by American "ragtime."

THE TEST OF PERSONAL POSSESSION.

Has the song lived? Will the song live? In addition to these tests of a song there is a third, which we may call the test of personal possession. Does or will the song live for me, the individual? Has it a place in my life for reasons personal and of value to me? Has it had the power with me to suggest thought, action, habit, character? As a memory, does it leave me unashamed and glad to recall it? Is it a song by which I shall be happy to have my children remember their home? All these are questions that the test of personal possession applies to a song. Songs that can stand this test may be folk songs and folk ballads, the class of which Dr. Claxton spoke, or they may be the "old songs" defended by Richard Le Gallienne. To whatever class they may belong, they are our songs and we are quick to defend them, with or without the test proofs of their having lived for any one else than ourselves. They may be recent, but more than likely they are good songs to us because they are the songs of our early homes. They have stood the test of personal possession. These songs are the children's heritage.



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to the mothers and fathers who desire to give their children the advantages of a musical education.

Beethoven says, "Where the piano is there is the happiest home." Very few of us fully realize, yet, the actual value of a musical education to the child. Music is the food of the soul and should be nourished during childhood. It will help them to grow up better, broader and more sympathetic men and women.

Music will beautify the character of the child and impart grace and refinement.

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8423.—Decidedly smart is this dress of plaid or check gingham. The three-piece skirt in clearing or shorter length measures 3⅛ yards at the lower edge, in the medium size. The one-seam sleeves may be full length, as illustrated, or in shorter length, turned back to form cuffs. A contrasting color or material, as shown above, trims the dress effectively. The medium size requires 5⅞ yards of 36-inch plaid gingham and ½ yard of 36-inch white piqué. Dress 8423 in 8 sizes, 34 to 48 inches bust measure. 15 cents.

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not only saves your time, it saves the clothes from the harsh wash-board treatment. Gives much better results, with lighter work than when done in the old-fashioned way.

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Timely Winter Dress Ideas

NOVEL VEST OF SILK.—No woman can fail to appreciate the comfort and beauty of this vest to be worn under a coat. It is made without sleeves, and being buttoned right up to the throat it gives a protection from the fall winds just where it is needed. It may be made in white silk or broadcloth, or in some color which contrasts or harmonizes well with the tone of the suit

SMART STYLES IN WINTER MILLINERY.—These illustrations show two of the seasons typical models in trim millinery. The black velvet toque gets a dashing note of length and slenderness from two sharply pointed black wings extending across the entire side of the top and projecting far beyond the front and back. The fur-trimmed turban is distinctly military in character, made with pleated side and edge finish of fur. Blue cloth with squirrel fur makes a good combination.

Old Dan's Vision: By DUNCAN McKYE

You Have Seen Him in an Ontario Patron "Lawdge"—His Prophecies Are Marching on

OLD DAN was a hero who should rank with Hector or any old hero of the time. He was not attired in fashionable armor, cut in the latest style, nor did he show a mighty sword-arm, like a weaver's beam. Old Dan was an ordinary sand-piper with fifty acres of beautiful, yellow sand, with a few rods of rail-fence, slowing rising from the drifts; or were they sinking, or just staying there waiting for the change of levels that would cry "dust to dust" and attempt to grow crop out of the decayed pine slivers? It's hard to tell, there being so many kinds of motion, and this of "dust to dust" is but one of many changes, and varieties of change. The farm exhibited signs of many kinds of hope that had sprouted up eternal, in Old Dan's narrow breast, at sundry periods. There was the "Columbian" raspberry, that would of a surety grow vast crops of great raspberries, on the poorest soil. Dan had an acre of that kind of soil. Some would have said fifty acres, but they, of course, would be foreigners to the sand-belt. Dan had good and bad land. There was the orchard of apples; no—I beg your pardon—of apple trees. The trees were put in in the spring. Dan evolved that train of thought on the development of the great West. "It's shoooore gon' teh be th' crop of the future." Dan said to Wesley: 'Apples won't grow out thar." And Wesley answered that "They wunt grow here —nuther." Of course, they would have grown "there" if they had been fed, but the tree-agents who operated in our district always specified that their stock would grow bully "froot" on the poorest soil without any cultivation, and these two essentials of "froot-culcher"—viz., poor soil, and absence of cultivation—were the conspicuous features in "our district." Then there were the twenty bags of cement which Dan bought for his cement " 'en-'ouse" which underwent petrification because the barn was shy of shingles, and lay for many years—bags of solid stone—by the barn-yard fence. The shingles which were to shingle the barn-roof, also lay there, within calling distance of the sculptured bags of " 'en-'ouse" cement. The reason of their failure to function was the high price of nails.

Besides these fallen hopes was the hog-house that embodied Dan's reflections on the subject of "corn and pigs." That spring Dan looked at the soil with an analytical eye, and then looked at the stars —with his other eye—and concluded that the natural corollary of the soil was corn and pigs. Dan's logic was unassailable. He was a well-read man, and was acquainted with all the tricks of the disputants. When he resolved to believe a certain thing, he knew right where to go for the necessary food for conviction. The corn end of the game was easy. All he had to do was to make a hole in that yellow beautiful, and then put several grains of the other "yellow beautiful" into it. The hog-dream followed. So much corn and so many hogs, and so much pen to accommodate the hogs. Dan never rehearsed the deduction without thinking how easy it was to make money. It was a large 'og-'ouse, with long corridors for feeding the hogs, and a great elevator to accommodate the corn, overhead. It was never finished, and the elevator-floor overhead was not put in. The reason—simply that the corn-crop failed. One lonesome hog occupied those vast hog-premises that winter—one sad, solitary swine, with a squeal that echoed sociably through the vast corridors. It was a cruel disillusionment. A huge bank account—a whole district, full of gratitude, hastening to follow his example of hogs and corn—dwindled to a lonely barrow-keeping "bach."

Things like these saddened Dan's soul, which was none too buoyant by nature. Great silver bushes sprouted out on his temples, and his beard grew grizzled, with the suddenness with which despair followed hope. It got him, finally—the despair. It ate into his heart, and consumed it, even as the grasshoppers ate the soft seeds out of his rye-bushes. His mind settled down to a sort of resigned pessimism, that was not lacking in humor.

HE OWNED ONLY 50 ACRES.

A friend of Dan's was looking, deploringly, over the "coral strand" — once — when Dan reminded him that he was not as poor as "anyone might think." "You see," said Dan, "I own only fifty acres of it." It was an eloquent speech — far more eloquent than any print can picture. The tone said, "God help the poor devil who has a hundred."

Dan eventually gave it up. The "coral strand" absorbed such a lot of hope. There were mortgages to the right of him, and mortgages to the left of him—very few behind him. There were mortgages, and second mortgages, and chattel-mortgages —many unknown, and rare, species of mortgages. They were the chief product of the "coral strand." One night he moved away and got a job, somewhere, taking care of a livery-stable. He never came back.

No one ever does.

Even when they die—and go to the "bad-place"—they never return. I knew a fellow who went from there to the penitentiary, and he stayed. He preferred it.

If you ask Dan, to-day, what drove him to the city, away from the "coral strand," he will say "the octoepus." Dan said "octoepus" with the accent on the "toe."

Dan fought with the octopus. He fought as only heroes fight. He used a twenty-two-kal pea-shooter, but he used it bravely. After all—what else is heroism? Success? Thank you my dears, the octopus has that.

The name of the pea-shooter was "Patrons of Industry." Dan called its name "Paitrons."

The "Paitrons" professed to be a trust-buster. What any secret motives it may have carried about, concealed, I cannot say. It had as many motives as members —I think. One of the objects was a "Tory dodge." Another was a "Grit dodge." People outside the "Lawdge" differed as to which "dodge" it really was, but all were agreed that it, sure, was a dodge.

The reader, probably, doesn't know what a "dodge" is. The writer doesn't, either; nor the people, who thus held forth about it, so, you see, it don't matter in the least which variety of "dodge" it was.

One thing was clear to the "octopus." The thing was an enemy.

The heelers of both the grand old parties fought, "and Michael fought, and his angels"—that is to say—Dan—Old Dan. The two grand old parties are always in the same "entente" as the octopus, be sure of that. One good old man, who has since led his party to victory, told his chief henchman, "Go into it, and keep your eye on it. It looks innocent, but you can't tell; no, sir, you can't ever tell." Thus were the spies placed in position, at the earnest "begincement" of the movement. In some localities, the school room was used for "Lawdge," and the heelers insisted that the school law reserved the building for school purposes only. Others thought the books of the children were being mussed up by the "Paitrons," and one novel-intellected old gentleman protested on the ground that the "Paitrons" would wear out the floors. The battle was carried to the school meetings, and the novel, old heeling gentlemen were pulled off by order of the different party-headquarters because they did more harm to the grand old parties than to the "Paitrons." Many of the old "aforesaid" joined, and did their best to put brother against brother and father against son. They even played it, as Old Dan said, "for the votes that might be got," and some went so far as to offer their services, at a later period, as "Paitron" standard-bearer, playing their old party for "big-bass." The octopus was uneasy in its mind, for a while, until it became clear that the "Paitrons" were attacking the right-centre-hind-leg only. It quieted, and prepared for the final kick.

In all the great forlorn hope of it, Old Dan took a leading part. He was used to forlorn hopes. His life—poor, Old Dan —was itself a forlorn hope, and one forlorn hope, more or less made little difference to that amalgamation of resignation and pessimism. He wanted, so bad, to pop the octopus—the awful beast that had drawn the humus from that poor, weak, yellow-souled fifty acres.

WHAT ABOUT SALT?

Oh, you "Lawdge"—you P. I. Lawdge—in silence, and at night, I can still hear Old Dan: "Mr. President, what about salt?" This came under "suggestions for the good of the order," or "further business, or "nobody's business," or something like that. (Twenty years is a long time to dig back into for facts.) Dan would rise, with the dignity of a Roman Senator, and ask this question. For months, his mind refused to take any nourishment except "salt." There was a deal on with some "salt" people at Windsor, and the "salt" combine loomed like a threatening

Continued on page 74.

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Getting Ready for Winter

THIS noon I noticed the first real touch of November in the air. It came across the fields with something sinister in its breath, a dark foreboding of winter, and I wondered why. It somehow didn't seem very brave, nor sensible, to cower before something that must come, something as natural and harmless as a changing season. Yet winter in the country has a certain terror for most of us. It means shut-in days, and cold mornings, and croupy children and a following of other little worries, quite real enough to the woman who is responsible for seeing them through. The point we miss is that most of these troubles could be averted.

One thing which is wrong with the majority of farm houses is that they are not well heated. Besides the discomfort, a cold house is almost always a poorly ventilated house; it is so cold that we hesitate to open doors or windows, because it means losing what little heat we have; so we live in air more or less stale, where any germs that chance to find their way wax fat and multiply, and not infrequently the whole family have "colds." Another difficulty with many farm kitchens is that the air from outside has too free circulation. Openings about windows and doors mean draughts; especially is the floor usually cold, and a woman working in such a room suffers from cold feet and attendant ills. A little repairing of worn places now, before the extremely cold weather sets in, will pay for the trouble a hundred times before the winter is over. If the whole building needs to be made warmer, a layer of building-paper will work miracles. The surest way to have a comfortable, well-ventilated house is to make it as snug as possible, with a heating system which will make it warm enough to allow windows to be left slightly open part of the time, or at intervals, when the family is out of the room, the doors and windows may be opened for a few minutes, providing a complete change of air.

VENTILATION IN THE KITCHEN

More important even than the ventilation of the kitchen or living-room is the matter of getting fresh air into the sleeping-rooms. During the hours when the system is relaxed in sleep it is more susceptible to bad conditions than during the day. It is a recognized fact that the fresh air we get during the cold seasons is more invigorating than warm fresh air, but there are still a lot of people who have not the courage of their convictions sufficiently strong to open their windows more than half an inch.

Health authorities generally agree that the ideal plan is to sleep out of doors the year round, and in cases of threatened lung trouble it is often the only safe method; in fact it is considered a positive cure for incipient lung trouble. We must remember, however, that out-door sleeping is dangerous if the body is not kept at an even temperature. A hot water bag is no disgrace; neither is it good economy to waste the heat of the body warming a bed that has stood in a zero atmosphere all day. For sleeping out of doors in very cold weather, the porch or balcony where the bed is placed should be well equipped with awnings for protection on windy nights. There are sure to be some stormy nights during the winter when out-door sleeping is neither safe nor sensible. A cot with woven wire springs and a layer of newspapers, or an old buffalo robe under the mattress makes a good bed. Linen sheets should never be used. Woollen blankets, or flannelette sheets with woollen blankets for covering, retain the heat for a long time. The bedding should be well aired in the morning, but thoroughly warmed in the house before the bed is made up at night. When this is done, put a hot water bag at the foot, another to supply heat to the back and have the patient get right in. Use light coverings as far as possible, that is, woollen blankets and eiderdown comforters rather than heavy-weight quilts. As it will be necessary to use a lot of coverings the weight of the heavy quilts is likely to tire the sleeper. If you have a puny, delicate child in your family or any member with any tendency to lung or bronchial weakness, a season of out-door sleeping may save serious trouble later.

WHY IS PNEUMONIA SO COMMON?

While it is not by any means necessary for every person to sleep out of doors, no one can afford to miss the good that comes from breathing pure, cold oxygen for the several hours when the body is relaxed in sleep. If you find yourself awaking tired and nervous in the morning, don't worry over the idea that your health is failing; look to your fresh air supply, and if you have not been educated from babyhood to sleep with your windows open, begin now. First, arrange your room so that you do not sleep in a direct draught; if this is impossible use the following simple device to break the air current. Cut a piece of heavy cotton six inches longer than the width of the window frame, and eighteen inches wide. Tack it along its lower edge to the window-sill and hook the upper corners to the sides of the window frame. The window may then be opened wide but the current of air will be directed upwards. Or have frames similar to screen frames made to fit under the lower sash when it is raised. Over these stretch strong muslin, tightly, and nail it securely, using narrow wooden strips to hold it and prevent tearing. These sup-

ply air while they prevent winds and direct draughts.

During the winter and spring months we have more trouble from pneumonia than from any other disease, and naturally enough the public seems to have the idea that it is the result of exposure to cold. A paragraph from a bulletin published by the Department of Health states that the greater frequency of this disease in the winter is due to people housing themselves in tightly-closed, over-heated, badly-ventilated rooms and inhaling the resulting foul air. Nature has provided us with wonderful powers of resistance against the pneumonia bug when we live in pure air, but when the vitality has been lowered by months of living in badly ventilated houses, the germs have nothing to do but settle in the lungs and flourish.

In the winter sleeping room the bed is a consideration quite as important as the ventilation. The skin as well as the lungs is an organ of excretion, and because the skin is more active at night than in the day time in eliminating waste from the body, it follows that the house mother has an extra responsibility in providing beds with the right kind of bed-clothing, and in teaching children the importance of removing at night all clothing that has been worn during the day. A thin mattress may mean a cold bed. If this is the case a piece of heavy wrapping paper placed between the mattress and springs will remedy the trouble. The lighter the top covering the better, but if down comforters are too expensive, a quilt made of two layers of flannelette with an interlining of newspapers will prove an excellent covering over the blankets. After all, since we spend about one-third of our time in sleep, the money spent on a good bed is a pretty safe investment.

Another reason why many of us suffer from the cold weather, is that we don't take thought for our clothing—not that we haven't warm clothes, but because we haven't the most hygienic clothes. To wrap up in clothing so heavy that the least exertion leaves the body damp with perspiration is about as bad as to go too thinly clad. Beginning with the underwear, a soft porous texture is the only healthful thing. A tightly woven material will not allow the perspiration to evaporate quickly from the surface of the body and a clamminess is likely to result. With good underwear the rest of the clothing does not matter so much, except that the feet must be kept warm and dry. Especially is this important for the children who have to go to school in all kinds of weather, and who should, in any case, be dressed so that they can go outside for a run on even the stormiest days. Even the little 3 and 4-year-olds should be fitted with leggings and sweaters and taught to play outdoors from the time they can pull a hand-sleigh or roll a snowball.

And the hour or two out of doors every day is not less important for the woman whose work necessarily keeps her in the house most of the time. If it is only a trip to the barn, with a visit to the animals there, and a look around at what the men are doing, it means a change from the routine of the house. Better still would be a trip to the hill with the children for a half-hour's tobogganing. The woman who does the work for an average farm household obviously might not need additional exercise, but there is a toning-up of the nerves in a game like this which does not come from the indoor exercises of housework, good as they are.

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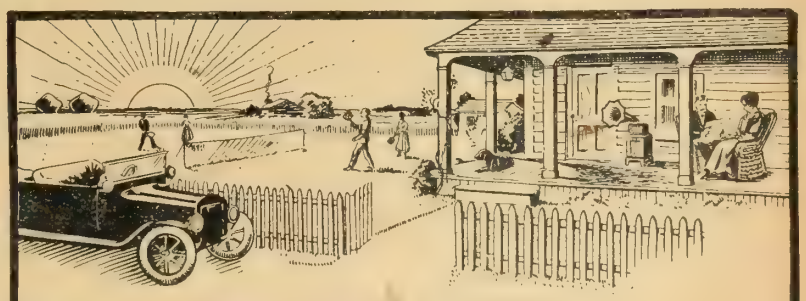

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THE MONTH'S RECIPES

By GENEVIEVE

GRAHAM MUFFINS NO. I.

1¼ cups Graham flour
1 cup white flour
1 cup sour milk
1-3 cup molasses
¾ teaspoon soda
1 teaspoon salt

Mix and sift the dry ingredients; add milk to molasses; combine mixtures and bake.

GRAHAM MUFFINS NO. II

1 cup Graham or entire wheat flour
1 cup white flour
4 teaspoons baking powder
¼ cup sugar
1 teaspoon salt
1 cup milk
1 egg
1 tablespoon melted butter

Mix and sift dry ingredients; add milk gradually, egg well beaten, and melted butter. Bake in hot oven in buttered gem pans for about twenty minutes.

NUT BREAD

2½ cups flour
4 teaspoons baking powder
½ teaspoon salt
1 egg
½ cup sugar
1 cup milk
1 cup chopped walnuts
½ cup chopped dates

Beat the egg, add sugar and milk and stir until the sugar is dissolved. Mix and sift the dry ingredients; gradually sift these into the egg and milk mixture. Add the nuts and the dates rolled in flour. Beat well, turn into a greased pan and bake. By baking the loaves in baking-powder cans you will have very attractive, round-shaped slices.

BEAN SOUP

2 cups dried beans
2 quarts water
1 onion
½ tablespoon salt
Small piece of salt pork

Soak beans over night. In the morning drain and cover with cold water. Add the other ingredients and cook until the beans are tender. This soup may be served either strained or unstrained. It may be boiled down until thick, or it may be thickened with a little flour.

SCALLOPED CORN

2 cups chopped corn, or canned corn
2 eggs
1 teaspoon salt
1 pint scalded skim milk

Beat the eggs slightly, add the other ingredients, place in a buttered baking-dish, and bake in a slow oven.

BAKED FISH

Haddock, salmon, white-fish or any of the larger fish are suitable for this method of cooking. Make a stuffing using the following:

1 cup bread crumbs
1 teaspoon salt
¼ teaspoon pepper
1 small onion, grated
1 teaspoon chopped parsley
1 tablespoon chopped pickles
2 tablespoons butter

Mix seasonings with crumbs and add to melted butter. Moisten with milk, if necessary. Clean the fish, rub with salt, fill with stuffing and sew the edges together. Sprinkle with salt and pepper and dredge with flour. Place in a greased baking pan with pieces of salt pork. Baste every ten minutes. Fish requires ten minutes to the pound and ten minutes extra.

CEREAL PUDDING NO. I.

1 cup cooked cornmeal
½ cup milk
1-3 cup sugar
½ cup seeded raisins or chopped dates
¼ teaspoon nutmeg or cinnamon

Bake in the oven until brown, or cook in a double boiler for twenty minutes, and pour into moulds to be served cold.

CEREAL PUDDING NO. II.

1 cup cooked cornmeal
1 tablespoon cornstarch
1 egg
1 cup milk
1-3 cup sugar
½ cup seeded raisins or chopped dates
¼ teaspoon nutmeg or cinnamon

Cook the same as Cereal Pudding No. I.

PUMPKIN PIE

1½ cups cooked and mashed pumpkin
2-3 cup sugar
1 teaspoon cinnamon
½ teaspoon ginger
½ teaspoon salt
2 eggs
1½ cups milk
½ cup cream

Mix ingredients in the order given and bake in one crust.

SQUASH PIE

1½ cups cooked and mashed squash
¼ cup sugar
½ teaspoon salt
¼ teaspoon cinnamon
¼ teaspoon ginger
¼ teaspoon nutmeg
1 egg
1 cup milk

Mix sugar, salt and spice. Add squash, egg slightly beaten and milk. Bake in one crust, having a quick oven at first to set the rim; afterwards decrease the heat as egg and milk in combination should be cooked at low temperature. If a richer pie is desired, use one cup squash, one-half cup each of milk and cream, and an additional egg yolk.

SUET PUDDING

1 cup finely chopped suet
1 cup molasses
1 cup milk
3 cups flour
1 teaspoon soda
1½ teaspoon salt
½ teaspoon ground cloves
½ teaspoon mace
½ teaspoon allspice
1 teaspoon cinnamon
1½ cups raisins
2 tablespoons flour

Mix and sift dry ingredients. Add molasses and milk to suet; combine mixture. Add raisins stoned, cut, and rolled in the two tablespoons of flour. Turn into buttered mould and steam about three hours. This recipe makes a large pudding, but it is just as good when steamed again for a second meal.

POTATO SOUP

1 qt. milk
1½ cups mashed potato
1 tablespoon butter
Salt, pepper and grated onion to taste

Cook the potatoes, mash and put through a sieve. Put on the milk over the fire with onion. Bring to a boil, add

the mashed potato, season and add the tablespoon of butter. Serve hot.

BAKED SALTED COD

Wipe the fish and place on a buttered baking tin. Prepare a dressing of bread crumbs, savory herbs, parsley, pepper and salt. Bind it with a little beaten egg. Place this on the fish and season. Add to the top a little fat. Bake in a moderate oven for ten minutes for every pound and five minutes extra. Serve with Hollandaise sauce with the addition of some anchovy, or any sauce that may be preferred.

GRIDDLE CAKES

1 egg
2½ cups flour
½ teaspoon salt
2 cups sour milk
1¼ teaspoons soda

Mix and sift flour, salt and soda; add sour milk, and egg well beaten. Drop by spoonfuls on a greased hot griddle; cook on one side, turn and cook on the other. Serve with maple or corn syrup.

FISH CHOWDER

2 cups potatoes (sliced)
1 cup fish
1 cup onion

Boil separately any white fleshed fish, onion and potato. Drain, remove the bones from the fish. Combine the three in one pan, add white sauce and reheat. Serve hot. This may be varied by adding pieces of bacon cut fine. This recipe is equally good when left-over fish is used.

BUCKWHEAT PANCAKES

1-3 cup bread crumbs
2 cups scalded milk
½ teaspoon salt
¼ yeast cake
½ cup lukewarm water
1¾ cups buckwheat flour
1 tablespoon molasses

Pour milk over crumbs, and soak thirty minutes; add salt, yeast cake dissolved in lukewarm water, and buckwheat to make a batter thin enough to pour. Let rise over night; in the morning, stir well, add molasses, one-fourth teaspoon soda dissolved in one-fourth cup lukewarm water, and cook same as griddle cakes. Save enough batter to raise another mixing, instead of using yeast cake; it will require one-half cup.

CREAMED FINNAN HADDIE

Pour boiling water over the Finnan haddie. Leave a few minutes, and pour off. This takes away some of the smoky taste. Lay the fish in a baking-pan and cover with milk or water. Cook gently in the oven until done. Make a white sauce, using the milk that is on the fish. To one cup of this milk, use two tablespoons of flour, one tablespoon of butter and one-eighth teaspoon of pepper. It requires no salt. Carefully remove the bones from the fish, breaking it as little as possible. Add this flaked fish to the white sauce. Reheat, and serve at once.

GRAHAM FLOUR BISCUITS

2 cups Graham flour
1 cup sweet milk
4 level teaspoons baking powder
1 teaspoon salt
2 tablespoons shortening

Mix the dry ingredients. Work into these the shortening and when thoroughly mixed wet with the milk to a dough sufficiently moist to roll. Roll to one-half inch thickness, and cut as tea biscuits.

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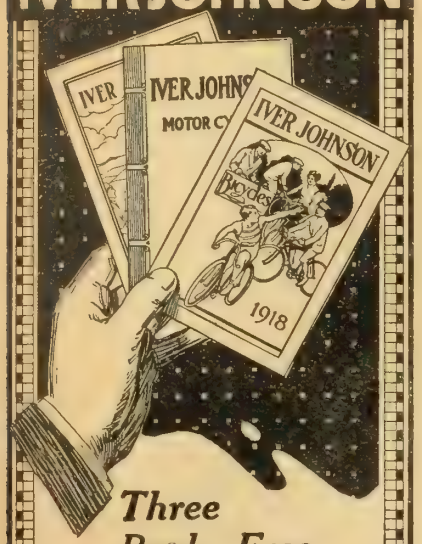

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November is little less busy for us than is October. The weather is worse. It is the month of falling leaves, rainy days and dirty work. But in spite of it all there is a melancholy gladness about the month on the farm that keeps the heart warm and the home-life on the farm contented. Perhaps it is the Christmas ahead or the hope of the war's cessation or something else that keys us up for a brighter future. Hope keeps the heart young they say. Certainly the farm is one interminable period of hopefulness with realizations daily to him who can see the gold among the dross of dirt and commonplace. Someone has suggested that hope is all the farmer gets. I can't see it so. I like to read a skit from John Burroughs when I feel that way. His little article reproduced in the October number has carried away many a threatened blue spell. We can't afford to grouch all the time even if our farm finances do not credit the producer with a square deal. We can't spoil our own spirits by complaining all the time. Let us rather fight well; take results contentedly and make our living a real victory anyway. I stood for a little while one evening last week on a hill top where the sheep were grazing around me. They were all working to supply me with wool. Over yonder a collie of my neighbors was sent to bring up the thirty head of Holsteins from the far field. He did it without a person being near and did it well. Overhead an aeroplane hovered and shortly lit in Westney's meadow. The young aviator came to see his mother in the little stone house on the adjoining farm And so my hilltop view was crowded with interest. The farm life has its own compensations.

General Reminders

Cannot some one invent a silo packer and a sheaf lifter?

Save all fodder possible as everything will be wanted before spring.

All implements should be oiled and cleaned before putting in the machine shed.

Have you a new idea of labor-saving? Tell your neighbors and fellow readers about it in the FARMER'S MAGAZINE.

What about hauling that gravel for your poultry and for inside cement work before it freezes?

Don't leave the tractor outside much longer. It ought to be stored in a shed convenient to the barn where its belt power can be used without moving it.

The farm auto should be cleaned and put away as soon as traffic stops. Jack it up off the wheels.

Livestock Notes

The colts should have shelter from bad storms and chilly nights.

Feeding cattle lose much flesh these cold nights. Better protect 10-cent beef.

Sheep will be trimmed, dipped, if possible, and bred this month. Be sure the sire is a good one.

Kindness with the animals always pays in better feeders.

Never fool the colts or tease them. It makes bad mannered horses out of them.

If you have not a private book where you keep all data about your breeding and registrations, begin one now.

Silo filling will be about over, but a second filling of the left-over corn may be done this month. Tramp it in well.

Good drivers will yet be worth more money.

Now for the fat stock shows. The animal should be filled well or not shown.

Many men are buying a few sheep this fall. A few on every farm pay well.

Do not put sheep in fields where there are poor fences and so teach them to get through.

Pure bred livestock pay, for they have two markets.

Why not get a young brood sow or two this fall?

As a farmer, are you in favor of oleo being sold in Canada?

Dairy butter never was a better price and there is no fat better for people than good butter.

Dairy work needs constant attention from the farmer, but the milking machine,

gasoline engine and the silo have cut out much of the drudgery.

If you have a few little lambs, dip them, give them plenty of salt, charcoal and sulphur to lick, supply a few roots and feed well, inside well ventilated stables, and bring them into shape for mutton or breeding.

Save as much of the fertility of the soil as you can in your feeding of animals.

Don't forget the stable whitewash and disinfectants.

In the Greenhouse

Sow tomato seed in November for February transplanting.

Examine the palms, ferns and rubber plants for lice and scale. Sponge with soap and water.

Spray house plants with a solution of nicotine for plant lice.

Plant bulbs for Xmas blooming now and set in a dark place to root.

Get in a good supply of garden soil for use before freezing time.

Lettuce can be planted as soon as the space is empty.

In the Flower Garden

Dig all dahlia bulbs this month and label them by colors, then store in a dry, cool place where frost will not injure.

Cover the perennial flower beds slightly to protect from the winter freezing.

Lay rose bushes down and cover with straw. Heap a mound of earth around the tea and perpetual roses so that the roots will be protected.

A prepared bed of asters can be sown this fall and they will get a good start in the spring.

Save some of the garden seeds where you can, label well and store in a known drawer.

Many geraniums can be kept through the winter by digging and putting in sand in the cellar.

Among the Fruit Trees

Old newspapers crumpled and tied with binder twine make a cheap protection for young trees against mice and rabbits. Also hill up the tree two or three inches with fresh soil to keep mice from being attracted to the tree.

Well sprayed orchards this year have not been as clean of scab as one would like, but they were a long way ahead of the unsprayed.

Spread a little coarse straw on the strawberry beds. Be careful not to let weed seeds go in with it.

Examine the trees for canker and borers. Dig out the little borer before he has time to damage the tree. Then spray the wound with lime-sulphur or a weak solution of corrosive sublimate.

The Tussock moth has been plentiful this fall in many Ontario orchards. Fall spraying would have killed many of these. They attack all kinds of foliage.

Plan to put manure on the orchard after it freezes up so as to prepare the trees for a good crop next year.

People are going to want lots of fruit after the war and a poor, neglected orchard won't supply much for them.

A Five Years' Satisfied Reader

"We have taken the FARMER'S MAGAZINE for the past five years and have found it very useful and full of helpful hints about sewing, gardening, caring for poultry, poultry houses, etc."—Irene Kehoe, Alberta.

A Vast New Land Waiting for You

Settle in Northern Ontario

Opportunity awaits the man who will strike out to the rich, fertile land of Northern Ontario. Millions of acres of virgin soil obtainable at 50c an acre in some districts, and in others Free, are calling for cultivation. This land contains immense resources in timber, mineral, waterpower, fish, game and scenery, and is one of the greatest expanses of fertile territory in the world. This land calls for men to cultivate it; in return it will give health, comfort and prosperity. Thousands of farmers have responded to the call. How about you?

For ful information as to terms, regulations and settlers' rates, write to

H. A. MACDONELL, Director of Colonization

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Minister of Lands, Forests and Mines

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TORONTO, ONT.

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Removes Bursal Enlargements, Thickened, Swollen Tissues, Curbs, Filled Tendons, Soreness from any Bruise or Strain; Stops Spavin Lameness. Allays pain. Does not Blister, remove the hair or lay up the horse. $2.00 a bottle, delivered. Book 1 K free.

ABSORBINE, JR., the antiseptic liniment for mankind. For Synovitis, Strains, Gouty or Rheumatic deposits, Swollen, Painful Varicose Veins. Will tell you more if you write. $1 and $2 per bottle at dealers or delivered. Manufactured only by W. F. YOUNG, P.D.F. 48 Lymans Bldg., Montreal, Can.
Absorbine and Absorbine, Jr., are made in Canada.

Alfalfa in Alberta

Wm. Ferguson grows alfalfa in his 320-acre farm at Castor, Alta., and finds it to be very hardy. This year he disced it in the spring and cut the clover on July 5th and then disced again. The second cutting was made Aug. 17th, the alfalfa growing 34 inches in 43 days. Grimm Alfalfa seed was sown.

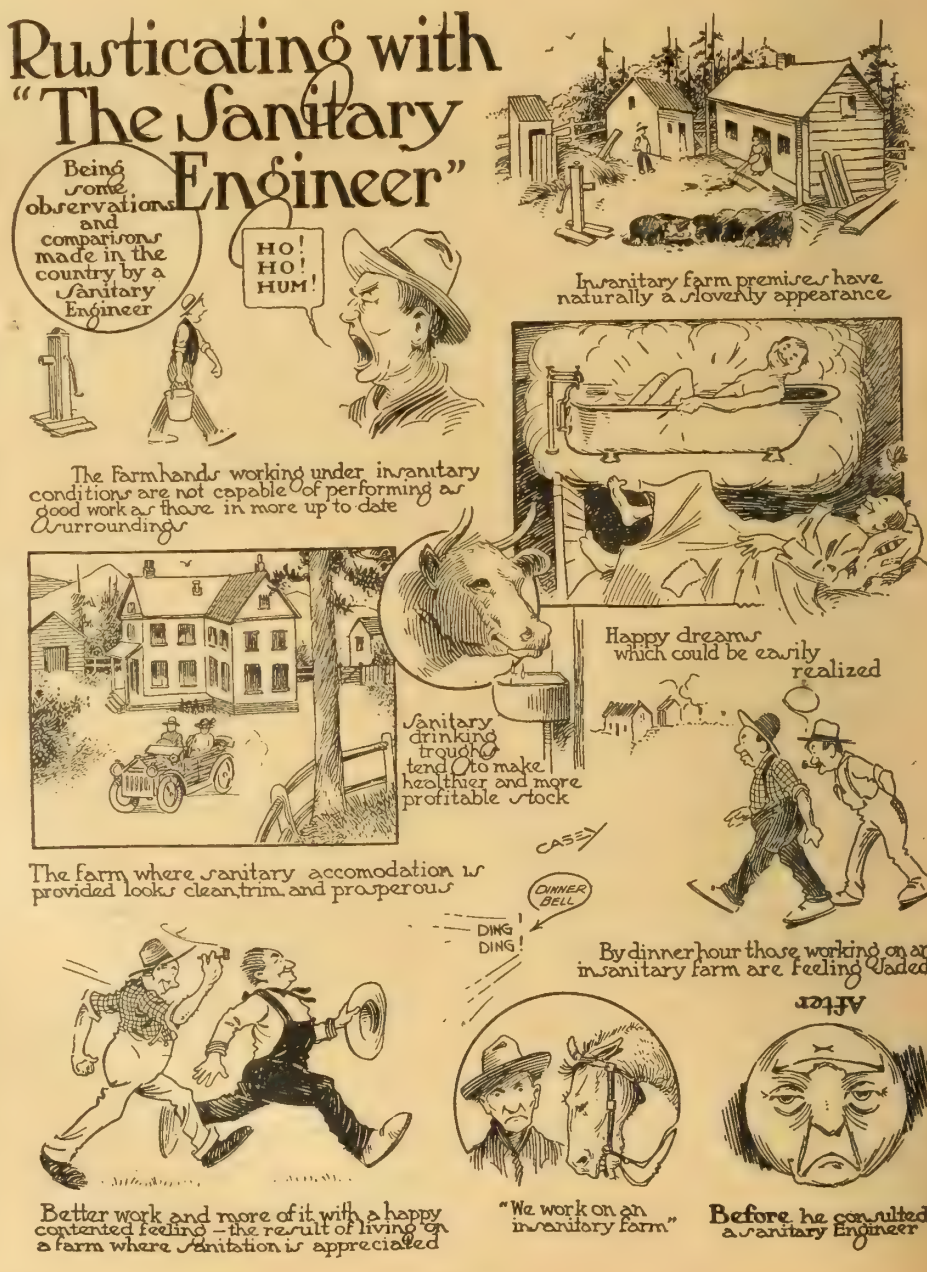
In Southern Alberta Charles Kane of Lethbridge claims to have the largest field of alfalfa for seed in North America. He expects to take $15,000 worth of seed from this 100-acre field.

Good Land in Northern B. C.

Dean Klinck of B. C. who was with a government party through Northern B. C., says that "the first point at which one finds real farming on the Peace, is at Hudson's Hope. The settlers have some livestock and are growing many crops, including grain, with considerable success. Coming down the river we came to St. John, and here the bench lands are about 900 feet high and the first real large tract of agricultural land is met with. The timber is sparse and the lands are about one-third open prairie. The greatest difficulty experienced is in obtaining water.

From Fort St. John the party went down to Cutbank River, within four miles of the Alberta boundary, and then across country to Pouce Coupe. There they found real farmers. In that district this year, a conservative estimate of the land cultivated is 4,600 acres in wheat, 7,000 acres in oats and about 1,000 acres in barley. The estimated yield from that acreage is about 650,000 bushels. This district was opened about five years ago and the settlers have made very rapid and successful progress considering that they have no railway facilities within seventy miles.

The main problem which confronts those people is the problem of transportation. That is the limiting factor at the present time, and I do not think they will increase their output until they get a railway.



Every Farmer's Desk

Why are social notes neglected? Why are family letters written with less and less frequency in many homes, till the old ties are almost broken? Why are business obligations overlooked and bills and receipts lost? Why are friendly letters a burden and old and valued friendships allowed to decline?

In many homes, these are the results of mere neglect in keeping at hand the materials for correspondence. If a frantic hunt through a badly disordered desk reveals only a few half sheets of paper and no envelopes, the impulse to write the letter that was just in the mind is checked. If, after being written, the letter has to wait several days for a stamp; if the envelopes do not fit the paper, or the ink is thick, or the bottle empty—and yet it is upon just such trifles that friendship or family solidarity may depend.

The efficient desk does not require mahogany for its structure. It may be a drawer in a pine table but it must contain an adequate supply of such essential materials as note and letter paper, envelopes to fit each, a supply of stamps, correspondence cards, ink, pencils, eraser, memorandum pad, rubber bands, with perhaps a tube of library paste, and some paper clips. If in addition there is a postal scale, a file for bills and a pocket or pigeon hole for unanswered letters a few minutes of spare time may be spent in getting a letter ready for the post-office, rather than in a loss of nerve energy in a fruitless search for materials and conveniences.—Virginia H. Corbett.

West Wins Big Prizes

Following is a complete list of Western Canadian exhibitors' prize winning at the international dry farming congress recently held at Peoria, Ill., U.S.:—

Best collection by state or province, 5th, Saskatchewan.

Best collection of vegetables by state or province, 3rd, Saskatchewan.

Best collection by individual farmer, 3rd, S. Larcombe, Birtle, Man.

Hard red spring wheat, 1st, S. Larcombe, Birtle, Man.; 2nd, A. Cooper, Treesbank, Man.; 3rd, W. J. Carrothers, Methven, Man.

Sweepstakes in wheat, 1st, S. Larcombe.

White oats, 1st, M. P. Mountain, Solsgirth, Man.

Sweepstakes in oats, 1st, M. P. Mountain.

Rye, 1st, John Strachan, Beulah, Man.; 3rd, D. C. Ferguson, Winnipeg.

Sweepstakes in rye, 1st, John Strachan.

Field peas, 1st, Seager Wheeler, Rosthern, Sask.; 2nd, W. S. Simpson, Vanguard, Sask.

Sheaf of brome grass, 1st, Seager Wheeler.

Sheaf of timothy, 2nd, Bond Bros., Fenton, Sask.

Sheaf of Hungarian millet, 2nd, R. T. Trisehsman, Whitemouth, Man.; brome grass seed, 2nd, Seager Wheeler; 3rd, W. H. Simpson.

Western rye grass seed, 1st, Seager Wheeler; 2nd, W. S. Simpson.

Flax seed, 1st, H. J. Pritchard, Roland, Man.; 2nd, David Pritchard, Roland, Man.

Sheaf of hard red spring wheat, 1st, Seager Wheeler; 2nd, A. J. Broatch, Moose Jaw, Sask.; 3rd, Andrew Tait, Seamans, Sask.

Sheaf of oats, 2nd, Seager Wheeler; 3rd, Larcombe.

Sheaf of field peas, 2nd, Seager Wheeler.

Russet Burbank potatoes, 1st, A. Cameron, Saskatoon, Sask.

Gold coin potatoes, 3rd, A. Cameron.

Carmen potatoes, 3rd, A. Cameron.

Irish cobbler potatoes, 1st, Seager Wheeler.

Early Ohio potatoes, 1st, Seager Wheeler.

Sweepstakes potatoes, 1st, Seager Wheeler.

Dry farm head red spring wheat, 1st, James A. Fields, Regina, Sask.; 2nd, S. Larcombe; 3rd, Robert Clarke.

Dry farm wheat sweepstakes, 1st, James A. Fields.

Dry farm oats, 1st, W. S. Simpson; 2nd, W. C. Simpson, Panburn, Sask.

Dry farm barley, 1st, Chas. Delsea; 2nd, James A. Fields; 3rd, W. S. Simpson.

Dry farm potatoes, 1st, Seager Wheeler.

Collection of canned vegetables, 1st, Mrs. I. Milne, Qu'Appelle, Sask.

REMEMBER the Great Economy of

BOVRIL

Extremely Severe

Dyspepsia

Halifax (N.S.) Sergeant in the C.E.F. Cured Completely by Dr. Cassell's Tablets.

SERGEANT DUNCAN MacNEIL, of the **CANADIAN EXPEDITIONARY FORCE,** writing from Europe (his home address is **116, PLEASANT STREET, HALIFAX, N.S.**) says:—

"For six years I suffered from frequent attacks of Dyspepsia, each attack being more acute than the last. During one of these attacks life would become almost unbearable, and I would have to regulate my diet to liquid foods only, often being in bed for days at a time. I was under the care of a Physician, and tried all the remedies on the market, spending a small fortune, but obtained little or no relief. I became utterly discouraged, and had almost given up all hope of Cure.

Sgt. MacNeil.

"When the war broke out I joined the Expeditionary Force and came to England. I had not been long there, however, when my old trouble returned, and I had to go to hospital. While in hospital a friend told me of Dr. Cassell's Tablets, and I decided to try them. The first box brought such pronounced relief that I continued the treatment. To make a long story short, a complete cure was effected.

"Since taking Dr. Cassell's Tablets I have been through hardships almost beyond human endurance, but not once has my old trouble returned to bother me."

The above is the frank, clear testimony of a Canadian soldier. He has been cured of extremely severe dyspepsia, which even the healthful life of the training ground could not overcome, and he wishes to tell others that he owes that cure to Dr. Cassell's Tablets.

Dr. Cassell's Tablets

FREE SAMPLE.

On receipt of 5 cents to cover mailing and packing, a generous free sample will be sent at once. Address: Harold F. Ritchie & Co., Ltd., 10, McCaul-street, Toronto.

Dr. Cassell's Tablets are Nutritive, Restorative, Alterative, and Anti-Spasmodic, and the recognised remedy for

Nervous Breakdown	**Sleeplessness**	**Mal-nutrition**
Nerve Paralysis	**Anæmia**	**Wasting Diseases**
Infantile Weakness	**Kidney Trouble**	**Palpitation**
Neurasthenia	**Dyspepsia**	**Vital Exhaustion**

Specially valuable for nursing mothers and during the Critical Periods of life.

Sold by Druggists and Storekeepers throughout Canada. Prices: One tube, 50 cents; six tubes for the price of five. War tax, 2 cents per tube extra.

Sole Proprietors: Dr. Cassell's Co., Ltd., Manchester, Eng.

THE BEST LINIMENT
OR PAIN KILLER FOR THE HUMAN BODY
Gombault's
Caustic Balsam
IT HAS NO EQUAL

For the Human Body —It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons Exterior Cancers, Boils Corns and Bunions CAUSTIC BALSAM has no equal as a Liniment.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

A Perfectly Safe and Reliable Remedy for
Sore Throat
Chest Cold
Backache
Neuralgia
Sprains
Strains
Lumbago
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Sore Lungs
Rheumatism
and
all Stiff Joints

REMOVES THE SORENESS--STRENGTHENS MUSCLES

Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than $120.00 paid in doctor's bills." OTTO A. BEYER.
Price $1.50 per bottle. Sold by druggists, or sent by us express prepaid. Write for Booklet R.
The LAWRENCE-WILLIAMS COMPANY, Toronto, Can.

MINARD'S
"KING OF PAIN"
LINIMENT

The old reliable remedy for rheumatism, neuralgia, sore throat and sprains.

Best Liniment Made

MR. A. E. LAUNDRY, EDMONTON, writes:—"I fell from a building and received what the doctor called a very bad sprained ankle, and told me I must not walk on it for three weeks. I got MINARD'S LINIMENT and in six days I was out to work again. I think it the best Liniment made."

Minard's Liniment always gives satisfaction. For any ache or pain. It gives instant relief.

Minard's Liniment
Co., Limited
Yarmouth, - - N.S.

They die outdoors!

Rats spoil your grain, kill your chicks, cost you much money, cut down your profits. Just crumble up a
Rat Bis-Kit
where they run. Rats seek it, eat it and die outdoors. Easiest, quickest, cleanest way. Price 25c at all drug and general stores.
The Rat Biscuit Co. Springfield, Ohio U.S.A.

For roaches and water bugs use Rat Bis-Kit Paste —the new Poison in the Tube—25c.

Farmers' Co-operation

Some News About the Way Real Farmers Are Pulling Together

Our New Minister of Agriculture

The Union Government has acquired its greatest strength from the inclusion in it of T. A. Crerar, President of the United Grain Growers of Winnipeg. This company of which he has been head has been the greatest evidence that Canada has produced of the advantages of union among the farmers. It has demonstrated what can be done towards getting a square deal in the sale and purchase of farm supplies. As head of the organization, Mr. Crerar has been imbued with the spirit of co-operation. He has shown that executive ability, that dominating energy and that honesty of principle that ensure business success. With him he has carried forward the best interests of the farmers, and the farmers have been big enough to follow and support his lead. Recently the amalgamation with the Alberta Co-operative Elevator Company has extended their usefulness, a story which was well told in the October issue of the FARMER'S MAGAZINE. So that the future of organized agriculture in Canada looks bright.

But now a crucial point is reached. Mr. Crerar has been made Minister of Agriculture. He will find that the traditions of Parliament Hill are not conducive to the energetic initiative, such as he had in Winnipeg. He will find snags on every hand. The under currents of pull and politics, the social element that rules among women and relatives, and all that will probably disgust him. But we, as farmers will hope that he can ride, master of his own portfolio, for assuredly he holds that of greatest importance to Canada. We want something done without consent from other interests. We want the same progress in agriculture as we saw in the West. And we believe Mr. Crerar is too big a man to hold office where he can not effect within a reasonable period the realization of his progressive ideas. Every farmer should stand behind him.—E. C. K.

Eating Into a House

Here is how George J. Holyoake draws attention to the good things in co-operation:

The co-operative movement is the only one which gives its members anything to eat. The temperance movement saves its adherents' money and increases their health. Political unions promote public liberty. Trade unions afford protection to industry and augment wages, but all take money in the present, returning good only in the future. But the co-operative movement takes nothing from you, and gives you money to a considerable amount in return for good-fellowship and good faith. . . . A co-operative store is the only institution in which the more children a man has the richer he becomes —that is, if he is able to keep them—for his purchases at the store being greater, the greater is his profit. The mother of a numerous family, who joined a co-operative store from her own good discernment, found her profits so increased after a few years that she bought a house, and when a neighbor expressed surprise that she was able to do it, she said the explanation was easy—"her children being hearty had eaten her into the house." To many poor people it seems much better to join a co-operative store and be eaten INTO a house than by dealing elsewhere be eaten OUT of it.

Co-operation At Sydney Mines

In their report the directors of the Co-operative Society at Sydney Mines, N.S., announced that the sales for the half year had amounted to $251,963.68, being an increase of $89,055.45 over the corresponding term of last year. The total sales for the year have been $439,408.43. On the basis of the turnover for the second half of the year, it would appear that the society has now passed the half-million-dollar mark. The share and loan investment of the members now reaches $93,-290.97. This community of miners has, therefore, an average investment in the society of $76.46 per member. During the term 256 new members have been enrolled, and 41 withdrew or were struck off, leaving the present membership 1,220. Including the families of members, it would seem that the society is serving six thousand people in a town of some nine or ten thousand population. The disposible balance for the term amounts to $29,497.27, which, after making the necessary provision for interim dividend, interest and other liabilities, the directors recommended should be disposed of as follows: Dividends on members' general purchases at 12%, $13.834.50; non-members' at 6%, $66.49; reserve fund, $800; extra depreciation, bakery equipment, $100; members' meat purchases dividend at 6%; $894.36; non-members' at 3%, $20.23; educational fund, $150; leaving a balance to be carried forward of $63.84.

The society gives in its report a yearly statement of its progress in various respects for the eleven years of its existence. The same shows that general expansion has been maintained throughout. The first year's business amounted to $16,-913.18, steadily rising to $439,408.43 last year. The membership in the period has increased from 88 to 1,220. During the eleven years, interest on capital has been paid to the extent of $13.314.05.

Co-operative Ensilage Cutter

John W. Berry, of Langley, B.C., with some of his neighbors, has invested in a co-operative ensilage cutter. It is operated by a 10 h.p. portable motor, the power being supplied by the B.C. Electric Railway power lines, which run to these farms. Mr. Berry has filled his silo 32 feet high and holding 180 tons. The motor cost $265.

The East Needs the Same

Let us have a number of candidates elected on the farmers' platform who will really represent Western opinion in the House of Commons, says the *Grain Growers' Guide*. Such men can join hands with the government in the prosecution of the war in every possible way, but at the same time they can see that the West gets a square deal in other legislation that will come before parliament. What the West needs in the next parliament is 35 or 40 strong independent Western members. It is not necessary that they go down to Ottawa with an immediate demand for the complete fulfillment of the farmers' platform while the war is in progress. But it should be remembered that these men will be elected for five years, while the war may be over in a year or two at the most. Then will come the big problems where we will need our very best men. Let us select them now and have them ready in the House of Commons backed up by a powerful Western public opinion, so that when the war is over they can prevent any further betrayal of the best interests of this country.

How the California Fruit Growers Did It

At the moment when the subject of farmers' co-operative associations again has come to the front because of unusual conditions and because of the necessity for economical marketing of agricultural products, the announcement is made by the California Fruit Growers' Exchange that in the year closed August 31, 1917, it returned to citrus growers the enormous sum of $33,611,000.

According to the report for the year recently closed, the Exchange now markets 69 per cent. of all oranges, lemons and grapefruit grown in California.—a business which last year totaled 15,492,990 boxes of citrus fruit. This tremendous volume of fruit was marketed at a cost of 4¾ cents a box and not a single penny was lost through bad debts or other causes. The annual report points out that in the last fourteen years the business of the growers' organization has amounted to $226,100,000, on which losses from bad debts and all other causes have been less than $8,000. The total California citrus crop of last season amounted to 53,830 carloads.

The citrus industry has virtually been organized upon a manufacturing basis. For advertising in newspapers and other periodicals each box of oranges is assessed 2¼ cents and every box of lemons 4 cents. Last year this netted a fund of nearly half a million dollars for publicity work. According to the report, the growers look to advertising to increase the consumption of oranges and lemons and thereby make room for the rapidly increasing crops. During the ten years in which advertising has been done, the consumption of citrus fruits has increased 80 per cent., or four times as rapidly as population.

Laying or Lying

Two college students from Queen's were discussing the correctness of saying the hen is setting or the hen is sitting. Upon approaching a farmer by the roadside they submitted the question to him. "Well," said he, assuming a serious aspect, "I am more concerned about that white hen of mine; when she cackles, is she laying or lying?"

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CHEWING TOBACCO

"Ever-lasting-ly Good"

Stands Supreme

above all other chewing tobaccos and was brought to perfection only after years of careful test and study

Sold Everywhere

10 cents a plug

Farm Lighting Batteries

Made in Canada

WE SAVE YOU 35% DUTY

USE Electric Light and save your eyesight

USE Hart Batteries and save your money

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THRESHER BELTING
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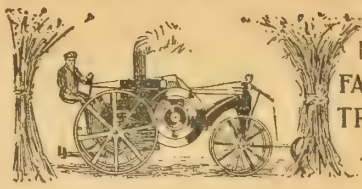
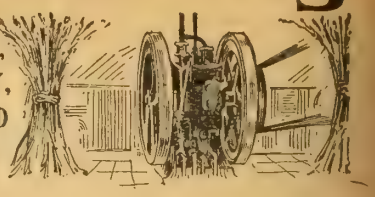


MOTORS, ENGINES, FARM MACHINERY, TROUBLE LOCATED AND REMEDIES SUGGESTED.



Keeping the Tractor Going

The tractor is as responsive to good treatment as an animal or any other machine. In the case of a great many machines the response to good treatment is not so noticeable. This is true because the tractor is a power-furnishing machine while the average farm machine consumes power. If the tractor is not just right in every way, it falls short in the production of power. This is sure to be very noticeable, as it is usually pulling a full load and only a small loss in power cuts down the amount of work done.

In the case of the power-driven machine, any disorder calls for greater power to operate it. The horses or the machine furnishing the power work harder and approximately the same results are accomplished. Hence it is much easier to overlook a slight indisposition on the part of a power-consuming machine than on the part of the power producer.

If any part through which power is transmitted is loose, it may cause a reduction of power. The tractor operator should examine his machine thoroughly every week or ten days to prevent such loss. A bolt in the crank case is loose, oil is lost. The adjustment on a valve stem loosens, the valve is out of proper time and the cylinder does not give full power. The clutch is not adjusted to take hold evenly. Slippage here causes loss of power. Similar leaks may develop in the fuel system and the ignition system. Any of these cause heavy drains on the power. Usually they can be quickly repaired if attended to early. Left too long, they may result in a breakdown involving a large repair bill and loss of much valuable time.

The throb and rythm of the tractor should be a part of the operator so that he detects the trouble in its earliest stage.—E. R. Gross.

Tractors in Lambton

There are now nineteen tractor plows working in Lambton county, counting our own. Waiting on repairs is our greatest delay. Our breaks are quite simple, such as blowing out the gasket on the end of the cylinder and such like. We are all mechanics enough to repair the machines but the delay waiting on the repairs is far too costly.—W.P.M.

A Tractor Mower

At the New York State Fair one of the lighter tractors gave a good exhibition of a mower attachment, says the *Rural New Yorker*. An ordinary mower knife, about 10 feet long, was fastened so as to receive power direct from the tractor, and it was under control the same as any mower knife. The tractor had a limited space in which to work, but it did well and showed what it could do in a meadow. These machines are developing rapidly. As more and more farmers put them to practical use, their defects are seen and remedied. They are going right along the course followed by dozens of other machines which, starting with a crude or clumsy model, have been adopted until they are farm necessities. The tractor is evidently coming that way—winning its place on the farm just as the car has done by good, practical performance.

The Community Grain Cleaner and Grader

There is room in every community for a power grain cleaner and grader. Farm labor is scarce and the equipment for the thorough cleaning and grading of grain is difficult to obtain unless one has a fairly deep purse.

What is suggested is that at every chopping mill there should be a cleaner and grader somewhat similar to the machine through which all grain is passed in the large flouring mills before the wheat is passed to the rollers. There are some "fanning mills" that do this work very well but they do it very slowly and only relatively well.

One has but to see one of the mills here spoken of at work to realize what good service they can render. Next to hand picking, these machines do the best kind of work. For instance, the farmer who this last year or two has sown oats on his fall wheat when he feared that the winter had proven too much for his wheat has been delighted to discover this mill not only cleaning his grain but giving him his oats in one sack and his wheat in another.

Not till one has seen one of these machines doing his work does the average farmer realize how much dirt and other weed seeds can be got out of grain that the ordinary "fanning mill" passes as clean. The cost of getting this cleaning done is comparatively slight while the gain is beyond computation. The government and agricultural councils have a fine opportunity in regard to the installation of these money making cleaners and graders.—A. K.

Discontented Workers

Discontented workers, pining for higher positions, may well ponder this pregnant sentence from "Impersonal Memories" by George Batchelor, now appearing in the *Christian Register*: "When I think of my work for the last fifty years, I often think of myself at the organ, blowing the bellows while better men sat at the keyboard. They must have been better men, or I should have been at the keyboard and they at the bellows."

Likes the Farmer

I have been taking the FARMER'S MAGAZINE for nearly two years and appreciate it very much.—A. V. Foulds, Ontario.

The Proper Oiling of Farm Machinery

By ANDREW KYLE

TEN years ago if a man "were no good with horses" he was regarded as foredoomed to failure in farming. The same condition obtains to-day. The horse is still the farmer's main source of power. But while the farmer is still dependent upon the horse for getting done the heavy work of the farm, a new era is dawning rapidly.

While it is idle to speak of the passing of the horse from the farm, it is looking facts in the face to say that the age of farm machinery is simply dawning. The farmer of the future will be the farmer who understands machinery in its detail. Not only will the successful farmer be able to apply machinery to his agricultural operations, but he will be able to set up machinery, to keep it in good running order and to be his own repair man when it is worn or broken.

For no machine will do its best work, nor will it give the length of service rightfully expected of it, if it is not properly levelled and its parts properly adjusted. A machine has no nerves nor can it right itself when once placed in position. All that it can do is to run as it is set and to wear bearings and shaftings in revenge for its owner's carelessness. All this wear and strain means loss of power in the machine. Loss of power means a larger fuel bill and greater cost in operation all round. The less power required to run the machine when it is "empty" the better. An engine or a cutting box or a binder that requires considerable effort to run when there is no work being done should be regarded with suspicion. When considerable effort is required to run the "empty" machine it requires overhauling or needless expense will be incurred and danger from accidents is entailed. A few minutes inspection of each machine occasionally will save time and expense. It must be remembered that a machine will not tell its owner when there is anything wrong with its parts. In this respect a machine is many times "dumber" than the dumb animals.

The bearing should run freely, but there should be no undue motion either in the direction of the length of the shaft or in the direction of the diameter of the shaft. A buggy wheel that is "just right" illustrates this point exactly. Of course care must be exercised to have no strain in the way of having one bearing working against any other bearing. The loose bearing simply means waste all round. The bearing that tightens on another bearing means a wearing that will soon result in a break.

Once adjusted, the next matter is the oiling or the lubricating of the machine. One hears at once the word, "Oh, anyone can oil up!" Nevertheless, the oiling is a very important part of the care of machinery.

WHAT IS OIL FOR?

The first step in oiling a machine is the thorough cleaning of the parts before the oil is applied. Oil is designed to make a part run without friction. Unless the bearing is kept clean, however, the oil may simply hold grit, and it must be remembered that *grit will cut a bearing no matter how well oiled it may be.* Hence

It's Here! The engine a thinking man will buy— "Z" Engine

The new "Z"

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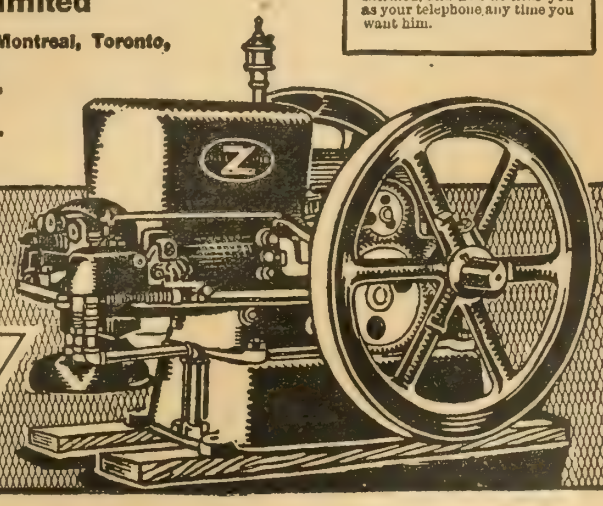

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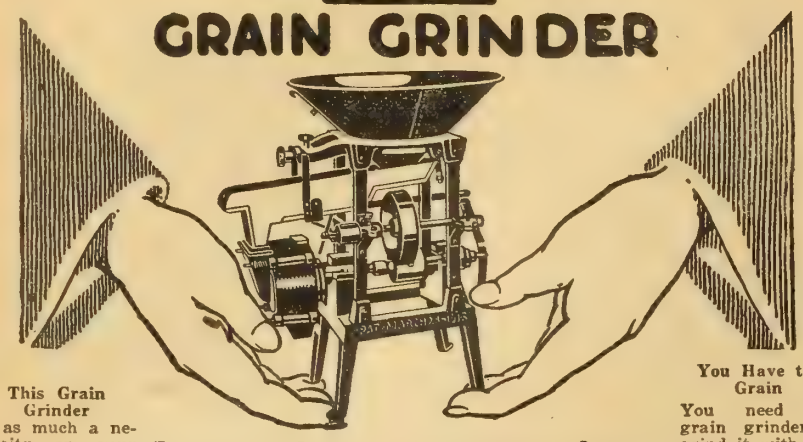
YOU NEED THIS M-re GRAIN GRINDER



This Grain Grinder Is as much a necessity on your farm as a plow or harrow.

You Have the Grain You need the grain grinder to grind it with just how and when you want it.

Let us place it on your farm

Perhaps more than once you've wished you could have a practical grain grinder on your farm. You can now realize your wish. Let us send you on trial a

M-re GRAIN GRINDER

THE GRINDER WITH THE EMERY WHEELS

Use it, test it for a week, grind your grain with it for home use or for your live stock or crack your corn for your poultry and you will realize what a great necessity it proves itself, what a practical investment its purchase means to you, and if you do not find it as good as we say it is—return it—that's all. No "ifs," no "ands," simply ship it back. Hundreds of M-re Grain Grinders have been placed on trial with farmers—not one has ever been returned —this means hundreds of satisfied users everywhere in Canada.

The M-re GRAIN GRINDER

Is the only Grain Grinder using emery wheels instead of steel plates.
Steel plates cut and slice the grain; emery wheels grind and crush the grain just like the old fashioned mill stones thoroughly and completely and produce a high grade flour or chop. The water test will give you positive proof of this.
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The Grain Growers' Grain Co.—Distributors for the Western Provinces

PEERLESS GATES

Down the road or far across the fields is often an "entrance," a mere hole in the fence, a constant source of danger to stock getting through. The best way to

Keep Your Stock Where You Want Them

is to provide real gates, strong and durable. All Peerless Farm Gates are of heavy open hearth steel wire on strong tubular steel frames electrically welded in one solid piece, and **braced like a steel bridge.** No sag, no rust, no wearing out. Ask your dealer to show you Peerless Gates, also Peerless Perfection Farm and Poultry fencing with the famous Peerless lock at all intersections.

PEERLESS THE ALL AROUND FENCE

SEND TODAY FOR CATALOG. It tells you how to put up a fence to "stay put."

The Banwell-Hoxie Wire Fence Co., Ltd.
Winnipeg, Manitoba Hamilton, Ontario

the importance of having the bearing well fitted and well protected, a point that must not be overlooked when one is purchasing a farm implement. When the machine has been freed from grit, the next step is the use of the oil.

Happy is the farmer who has the right sort of oil in his can when he is ready to oil up. One would like to be able to say just what is the best sort of oil to use for different machinery, but right here the only thing the farmer can do is to trust his dealer. He should state the purpose for which the oil is intended and ask for the very best oil available, as the best is none too good. Inferior oil, no matter what the price, is a delusion. Good oil is the cheapest in the end.

Too much attention cannot be given to procuring none but the best of oil for cylinders, either steam or gasoline. Here the farmer must trust his dealer. An inferior oil has very little lubricating quality in it. Under the intense heat of the cylinder it turns to rubbish, and the owner wonders why his engine is not giving results. The fact is that the alleged oil that he is using is not a lubricant that meets his purpose in any degree, way, shape or form, but a compound got up to sell.

Whatever it may be it is not a lubricant. There are tests, heat and other tests, with which every dealer should be familiar and he should be able to say whether his oil will give satisfactory results. This much should be expected of him, as he can obtain from the company with which he deals a statement of the various tests to which oil may be subjected.

SUGGESTS GOVERNMENT INSPECTION OF OILS

Right here is a job for the Government. There is the biggest need of an inspector of oil who will test the various oils offered for sale, just as there is an inspector for weights and measures. Until this inspection is undertaken efficiently, honest dealers and users of oil are in constant danger of being the victims of all forms of dishonest practice. If user and the local dealer alike may appeal to a certain standard there will be less tendency for trickery in the oil business. This principle of efficient inspection has wrought out well in other departments. If it is worth while to inspect whiskey and kindred articles it is far more worth while to look well into the qualities of oil, as there is a suspicion in the minds of some that for "ways that are dark and tricks that are vain, the oil business may be very peculiar." The dealer should be in a position to state definitely the various ingredients in his oil and the purposes for which the oil he offers is suited. Every year oil is sold for purposes for which the oil is not adapted. No one can compute the loss that has come about in this way. The injury done to machinery through inferior oil is enormous. The Government that will devise ways and means of protecting the public in this regard will confer a very great service to its constituency. Needless to say that coal oil and gasoline are in need of inspection, as some *are thinking that all is not as it should be in regard to these commodities*, either as to price or as to quality and label.

When it is at all practicable, a bearing should be opened occasionally and wiped clean of all dust and other grit. A little tightening or other adjustment will allow the oil to do its work. When any wear is in evidence there is proof that there is something wanting, as the oil is calculated to reduce all friction below the wearing point.

Should You Be Exempt?

Every facility is afforded those who have reasonable ground for applying for exemption under the Military Service Act. Each man's case will be considered by a local, civil board, sitting in the locality where he lives, and will be decided as is desirable in the national interest.

The idea behind the Military Service Act is to call up first only those whose absence from civilian occupations will cause least disturbance to the country's economic and social life. One hundred thousand reinforcements—*no more*—are to be raised under the Act.

Cases of Exemption

Over 1,250 civic tribunals have been organized throughout Canada, known as Exemption Tribunals. These boards are comprised of 2 members, one appointed by the county judge and one by a joint committee of Parliament. It will be seen that these tribunals are non-military and independent. The members are men closely acquainted with conditions in the places where they sit and will be able to give each case sympathetic attention.

National Interest Will Govern Exemptions

Consideration will be given to applications for exemption received from men engaged in the production or manufacture of commodities necessary to the conduct of the war and the support of those at home and cases in which real hardship would be caused by the withdrawal. Not all men who register these claims will be exempted, but such claims will receive careful consideration. National interest must govern.

Promptness is Essential

Prompt application for exemption is strongly urged upon all who, being included in the first class, believe they deserve exemption. But first visit a Medical Board and find out if any further action is required. Unless the Medical examination places you in Category A., you will have no immediate obligation for service.

Issued by
The Military Service Council

126

The Credit Man

EVERY big house, every well-ordered business concern doing big business with many customers spread over a wide territory, has a credit-man—someone who passes upon credits and watches customers' accounts. Perhaps this man is a principal. Perhaps he is an accountant. Perhaps he is an out-and-out Credit Man

This man must keep himself informed; must watch markets, market tendencies, general business conditions and world movements, because these have a direct or indirect effect on credits.

Also, this man, if he has the right sort of mind, sees how the purchasing department of the business with which he is connected is related to the broad world of finance. He sees, for example, how supplies and prices of raw material have their swift effect on the commodities his firm deals in; and he is guided, in his counsels, by this knowledge.

The worth or value or earning-power of this credit man can be made greater by his faithful reading each week of

THE

FINANCIAL POST OF CANADA

ONE really wonders how any credit man in Canada can do without THE FINANCIAL POST; or why he does without it. It costs far more than its subscription price ($3.00) to do without it. And just think of the return for the $3.00 spent to have it arrive each week! It can help a credit man to acquire a greater value to those he serves; and therefore can help him to earn $5.00 a week, or $10.00 a week, or $20.00 a week, more to his salary. It depends on the man—not on THE FINANCIAL POST.

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.....1917

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Investments and Insurance

For the Farmer

The Farmer as an Investor

The first article by this writer appeared in the September number. His whole argument is for safety of the investment, and from a farmer's standpoint he makes out a good case. Any questions of a financial, investment or insurance nature will be gladly answered here.—Editor.

Second Article

SINCE this article deals with investment, not speculation, it should be made clear that the stock market, the speculative real estate market are not proper places for any man to risk his money who has not at least convenient access to and long acquaintance with the markets in which he proposes to buy and sell. The difference between speculating and investing is this: that while the investor may be said to be the man who "hires out" his money for a more or less definite period of time, at a rate of interest which is usually fixed, and on some sort of security for which, when he gives it up, he expects to get as much for it as he gave, the speculator cares very little about interest rates, except in so far as they affect the demand and therefore the price of the security which he proposes to buy. His anticipated profit is to come out of an anticipated rise in the demand for his security. His possible loss lies in the possible falling off of demand.

For the chance of big profits he takes the chance of loss also. The real worth of the security concerns him very little so long as he believes or hopes it will last long enough for him to turn it over at a profit. If he buys a stock blindly, on the mere hope or trust that its price will go up, he is a gambler. If he has, through long experience, through wide acquaintanceship and sound information, some real reason to believe values will go up, then he is a little better than the gambler. But the moral aspect of a speculation matters, so far as the purpose of this article is concerned, only a little. It should be sufficient to say that the farmer has not, as a rule, easy access to the speculative markets; and he has not the means of knowing and judging values and the trend of prices. In short, in the speculative market he is like countless others, a lost man.

One form of investment to which all classes have turned since the European War, and the form in which prudent men take great interest, is the bond or debenture. While shares of stock may not always be bought for speculative purposes and are indeed very often bought outright and held for the dividends which are, or may be, paid on such shares, stock, nevertheless, differs from bonds or debentures in the fact that a share carries with it *liability*. It is a form of partnership in the enterprise issuing the share. If the enterprise prospers, as is often the case, the shareholder-partner gets a share of its profits; the greater the profits the greater the "dividends" on the share; the less the profits the less the dividends, and so on. But if there are no profits and the enterprise finally collapses, owing money to its creditors, the shareholder has now a share also in the misfortunes of the enterprise. Its creditors become *his* creditors, according to the number of shares he owns; its debts over and above what can be paid out of its remaining assets are, in proportion to his holdings of stock, his debts. His share of stock has now become a liability, not an asset. He may, as in the case of bank stocks, have to pay not only up to the total value of his share-holdings, but double that amount. On the other hand the bond or debenture, even issued by the same firm whose collapse ruined its shareholders, is instead of a liability against the owner, a preferred claim against the assets of the company. The bond-holder, unlike the stock-holder, is a *creditor* of the concern. His bond or debenture is a mortgage on its assets. If those assets are worth anything, the bond or debenture-holders, share in them.

Not all bonds or debentures—the terms have very much the same meaning—are sound security, though they are *always* many times as sound as the stock of the same concern. The safety of a bond, the probability that the bond-holders will, in case of the company's collapse find sufficient assets to satisfy their claims, depends upon the worth of the assets in which the company deals. In the case of government bonds the security is, of course, as nearly perfect as could well be imagined and, for that very reason, the rate of interest is usually low, not much more than the usual savings bank rates. The safety of municipal bonds or school debentures varies, according to the credit of the community issuing them. Other classes of bonds range in security from the bonds or debentures of mortgage corporations, whose assets are mortgages, one of the oldest and most conservative forms of investment, to the bonds or debentures of industrial concerns, whose assets may in individual cases be quite as sound as mortgages are, as a class. Mortgages themselves carry with them inconveniences such as the question of accurate valuation of property, clearness of title, irregularity of payments, possible necessity for legal action or possible moratorium, and they are for this reason sometimes awkward for individual buyers to handle. But when carefully bought by persons or corporations able to meet these inconveniences with ease, they are an ideal security, and as assets covering an issue of bonds or debentures are highly favored by shrewd investors.

High rates of interest are not to be had

for nothing; there is usually, almost inevitably, an increase in risk with the increase in interest above a conservative figure. Neither is the high degree of safety in Government bonds or savings bank deposits, to be had for nothing. There the investor has to lose two or three points of interest, *i.e*, he must accept a low rate on his money. To summarize the subject: Speculation in unknown markets is folly. Stock is so much possible liability in an enterprise whose real strength or weakness the investor cannot well estimate. While *exceptional opportunities* for investment are sometimes genuine, it is not often. As a class, bonds and debentures are the soundest investment. They may be had with high degree of security, absolute stability in market price, certainty of a reasonable rate of interest automatically paid, that is, by clipping off the interest coupons which are usually attached to the certificate, and they have, as a rule, a marketability in case of emergency need, or a borrowing value at a bank, which neither notes, mortgages, or the stock offer.

Wise Investments of Cash

The following sound advice of a leading business man will be of interest to every farmer who has money to invest in businesses outside his own.

It seems to me that one essential principle is for the small investor to make it a rule never to buy an equity, says Irving T. Bush writing in *World's Work*. He should remember that he is investing and that the other fellow who is managing the property should take the chance. It is, of course, true that great fortunes have been accumulated by buying equities in their development stage and holding them until their full value has been realized. I think, however, that the average successful investor would tell you that he has lost more money through bad judgment in buying equities than he has made through good judgment. One loss of the entire principal in an investment will wipe out a number of substantial profits made in others.

Therefore, it seems to me that one of the best rules for the average investor to follow is to buy mortgages, not equities. If he must buy stocks, he should confine his purchases to companies which he knows about personally, or should invest in them only that portion of his savings which he is willing to admit he can afford to lose if the investment goes wrong.

I would say to the average investor: Don't buy new issues unless they represent safe mortgages and are brought out by responsible houses. Avoid permanent investment in companies which produce luxuries. In boom times keep liquid or buy very conservative bonds. In a panic you can take a chance on depressed stocks where there seems no possibility of receivership. And don't forget when you buy a security that you may want to sell it sometime. Buy something with a market.

Thrift Is Not Merely Saving

Nearly every parent in the country at some time in his life decided to teach his children to be thrifty. He purchases a small bank and they are taught to save their pennies. I can see that cast iron pig now, standing upon the mantel in our old home ready and willing to eat every nickel and every penny that came my way. I hated that pig, for, whenever a

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do you ever think of the plight of your family if ever you were killed or carried off by disease? Now your earnings provide them with the comforts they deserve. Your wife is free from worry. Your children are obtaining a good education.

Deprived of your support and protection, your wife would be forced to take up the burden as a bread-winner; or your children might be forced to leave school to help with the work and thus lose their education.

Make adequate provision for your family by means of Life Insurance, the only sure way to provide for the future.

The Great-West Life issues Policies to suit every need and circumstance. Delay no longer, but write now for full information.

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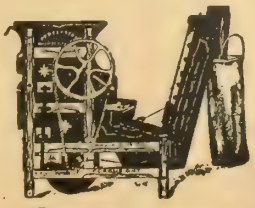

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1917-1918

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Canada Needs Men Trained in the Best Agricultural Practices.

You will be of greater value to your country and to yourself if you acquire all available information regarding your business as a farmer.

You can obtain this information during the Fall and Winter months at the

Ontario Agricultural College
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The College Term. The college opens September 21st and closes April 12th. This is convenient for most farm boys, as the hardest work of the summer is completed before the commencement of the term and students can return to their homes for the spring seeding.

Courses. The Two-Year Course is particularly designed for young men intending to be good practical farmers. It includes studies which are of practical value in all the work of the farm. The Four-Year Course for the degree of B.S.A. is a two-year continuation of the two-year course.

Expenses. In order to encourage young men to attend the college, the fees are fixed at the lowest possible figure. Board $4.00 per week—Tuition Fee $20.00 per year.

Public School Education is Sufficient for Admission.

Write for a Calendar giving full particulars.

G. C. CREELMAN, B.S.A., LL.D.,
President.

penny, or a nickel or a dime came my way, why the pig got it and so far as I can remember now that was the last of it.

I wonder if this is not a mistake, and I wonder if there are not other things that go to make up real thrift fully as much as the habit of saving. True it is we should save. James J. Hill has said, "The man who can not save can not succeed." Yet it seems to me that we should teach our boys that one who does not work will have nothing to save, and that a person who does not plan for that work will have no work to do from which he may derive a profit. I believe that Mr. S. W. Strauss, president of the American Society of Thrift, has hit the nail squarely on the head when he said, "Thrift means plan, it means self control, it means foresight, it means prudence, it means sane and legitimate self confidence, it means all that makes for character."—E. B. House.

INSURANCE

INSURANCE PROTECTS THE FARMER

"About the only venture from which I ever got any returns outside of my business was from my life insurance." This was a remark made the other day by an experienced business man to a younger man who sought his advice in regard to the investment of savings. It will be noted that this business man said two things. The first was that he had made money in his own business. The second was that he had returns from life insurance. The farmer will do well to consider both of these remarks.

First, the farmer's business is farming. From his farm operations he must make his money. He need not hope to succeed in any other business when he is engaged in farming. The man who attends fully to the work of a farm has an all-day job every day in the year. If he pays strict attention to business he may confidently look for fair returns year in and year out. If he neglects his farm he will be sure to meet with bitter financial disappointment.

Why, then, should the farmer consider life insurance, for life insurance is a business transaction that seems to have very little to do with farming?

For one thing, the insurance policy carries his risk. The farmer is in duty bound to guard the financial interests of his family in the event of his decease, for farmers die as well as business men. The farmer who is true to his home realizes this and he hesitates to make ventures that are quite legitimate farm enterprise in the fear that if his ventures fail he will imperil the financial future of his family. This fear is the explanation of many an undrained field, of many an inferior herd of cattle and unsuitable farm buildings. The farmer who makes use of life insurance is relieved of this haunting fear. In the event of his decease the insurance policy will stand between his family and want. This is the explanation of the remark made by the business man to his friend. His policy warranted his entering upon business

from which, without the policy, he would have been excluded by family claims.

In other words life insurance in a good company is a protection to the farmer, both in his business and in his family relations. When the farmer sees this clearly he will not consider the interest profits the insurance company has to offer so much as the profits he may make from his business by having the financial future of his family carefully guarded. For the farmer life insurance should be largely a matter of protection, and when he so regards insurance he will be surprised to find how reasonably the insurance company will meet his requirements. Under the protection of a life insurance policy students have paid their way through college, professional men have subsisted till business became good and merchants have laid the foundation of a trade that has meant their future prosperity. The farmer is on all fours with other men in this respect. There is no gamble about it. The farmer simply uses his insurance policy with all the safeguards the government throws about it for his protection while he pushes legitimate farm enterprise to the point of greatest profit.

The farmer should remember that an insurance policy upon which the premium is paid is an asset and not a liability. It may be used as an aid in borrowing money and is always regarded in the business world as an evidence of thrift. The value of the insurance policy is constant, and that is more than can be said of a great many other things in which the farmer is solicited to invest.—Andrew Kyle.

QUESTIONS

Western Rural Credits

J.T.A., Manitoba.—Can you give me information how the various western provinces are working out their rural credits schemes?

Answer.—In next issue we begin a series of articles on this very question by one who knows the ground. They will be interesting to you.

Mortgage Wanted

G.J., Ontario.—What firms will advance me money on a first mortgage on a farm I propose purchasing?

Answer.—I am sending you a list of firms with whom you can correspond. Perhaps it would be well for you to look around locally for the investment ought to be good for another farmer to make. First mortgages on farm property have first class security. You had better state the size of your farm, state of cultivation, buildings, soil and other advantages in your application.

To Manage Estate

F.O.M., Ontario.—A neighbor of mine has recently died and left his widow with an estate of some $100,000, and as she has had no business training nor cares to bother with the financial affairs, whom would you recommend as a good person or company to manage her business for her?

Answer.—Probably the safest arrangement she could make would be with some strong trust company. They will take

Invest Your Money in Canada

The Dominion Government urges that Canadian Securities should be held by Canadian Investors. Taxation is likely to be imposed on non-Canadian Securities. You can be patriotic and at the same time, obtain a certain 5% for your money by investing your funds in

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Thousands of people have invested their savings in these debentures without the loss of one dollar invested. The debentures are issued in amounts of $100 and upwards for a fixed period to suit your convenience.

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Why Canada Must Give Credit to Great Britain

Great Britain is the Canadian farmer's best market to-day. Not only must the people of Britain be fed, but also the millions of fighting men, among whom are our own boys.

But Great Britain must buy all her supplies on credit. She can no longer send her money out of Great Britain. She must use her credit abroad and buy where she can get credit.

Canada in her own interest must give credit to Great Britain in order that Great Britain may be enabled to continue to purchase Canada's agricultural and other products.

In other words, Canada must lend Great Britain the cash with which to pay Canadian farmers and other producers.

Then where does Canada get the cash? Outside financial markets are closed. Canada will get this cash by selling Canada's Victory Bonds.

So the Canadian farmer has a three-fold reason for buying Canada's Victory Bonds.

It is good business for him, because it keeps open his market.

It is patriotic because it enables him to help in maintaining production in Canada through which our fighting men will be supplied with Canadian produce.

And lastly because the investment is absolutely safe and the interest rate is most attractive.

Get ready to buy in November, Canada's Victory Bonds

Issued by Canada's Victory Loan Committee in co-operation with the Minister of Finance of the Dominion of Canada.

entire charge of her affairs and invest her money in none but sound enterprises. Such companies have men who keep in the closest touch with developments in regard to securities and they are able to give the best possible attention to business of this kind when placed in their hands. Although she might not get as high a return on investments they make as she might otherwise, she can always rest assured that her funds are conservatively employed and she is not likely to find at some later date that she is the owner of some practically worthless securities, as she might be if she followed her own inclinations or the advice of friends, who, although well meaning, would probably know little about the requirements of such an investment.

We would suggest you write to some of the leading companies, names of which can be furnished you if you so desire.

Good Safe Bonds

J.M.C., Ontario.—I have a few hundred dollars that I want to put into bonds yielding 4½ to 5%. My first consideration is safety. There are so many of these bonds that I am in doubt about what issues to select.

Answer.—Among the good bonds in denominations of $100 are the Canadian War Loans yielding 5% per annum, the Anglo-French 5's selling at a price to yield you 6% to 7%; mortgages, debenture bonds yielding 5% and highly satisfactory, Province of Ontario debentures yielding 5% and over. It seems to us that a division of your available funds among such bonds as these would give you an eminently satisfactory investment.

Second Mortgages

Mrs J. D., Ontario.—I have a $1,000 to invest and would like to place it where I can be assured of a little better rate than the prevailing 5% and 6% bond and mortgage returns. Would you deal in second mortgages on city property?

Answer.—A great many people do lend money on second mortgages on city property at 9% and 10% through the agency of reliable financial firms. But it requires exceptionally good judgment on the part of the firm with a reliable valuator to advise. It also requires constant watching, but so long as one is content to take the risk and worry it is your business solely. Occasionally the equity of the second mortgage disappears and the investor either has to purchase the first mortgage, pay the back taxes and interest and has the worry of selling or renting.

Let No Strangers In

Those women in Canada who have been hearing rumors that their preserves will be commandeered by the Food Controller will find, perhaps the counterpart in the following story from St. Louis. A couple travelling in a black touring car represented themselves as having been sent by the government to obtain a list of all the canned goods and preserves in the city. These they checked carefully. The housewives were then informed that they had a greater quantity on hand than the government allowed. They loaded the surplus into the automobile, ostensibly for the use of the men in the army.

The department of agriculture took immediate steps to get after the thieves and to quiet any such rumors.

He'll Appreciate Your Good Judgment As Well As Your Good Will

if for Christmas, 1917, you send him a Gillette Safety Razor! That's the gift that is valued Overseas for *itself* as well as for the sake of the sender. Few articles of personal equipment are so welcome, for the Gillette is known up and down the Allied lines, by Canadian, Briton and Anzac, Frenchman, Italian and American, as the one sure passport to a clean and enjoyable shave.

Even if he has already had one, the man in whom your hopes centre will be glad to get another Gillette Safety Razor. For under active service conditions, equipment so sought after as the Gillette strays easily and often, and he may now be trying to worry along again without one. So whatever else your box may contain, don't forget a GILLETTE SAFETY RAZOR —and a good supply of blades.

If you prefer, we will take your order, through your dealer or direct, and deliver the razor of your choice from our nearest depot Overseas. Ask your dealer about this when he shows you his Gillette assortment.

Standard Sets and "Bulldogs" cost $5.00—Pocket Editions $5.00 to $6.00—Combination Sets $6.50 up — at Drug, Jewelry and Hardware Stores.

Mails are congested—shipments slow. Send his Gillette early!

GILLETTE SAFETY RAZOR CO. OF CANADA, LIMITED,

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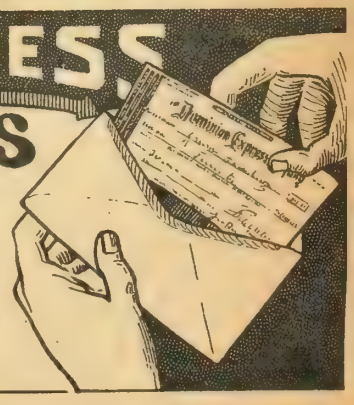

There is no better way to pay your out-of-town accounts.

	$ 5.00 and Under	- Costs	3 Cents
Over	5.00 to $10.00	- "	6 "
"	10.00 to 30.00	- "	10 "
"	30.00 to 50.00	- "	15 "

In The Poultry Yard

POULTRY NOTES FOR NOVEMBER

By Dan Daly.

Be sure your poultry houses are not crowded. Have the hens sufficient roosting room?

Cabbage makes excellent feeding this month. Use all unmarketable heads.

Plenty of Indian corn on these frosty evenings gives the fowl a chance to go to bed with full crops.

Every breed of hens has its laying strains built up by some wise and careful breeder.

Neglected repairs to the poultry house cannot be put off longer than this month.

Plenty of pure, dry air, with dry floors and freedom from draughts are the leading points to observe.

Be sure to store away plenty of gravel or sand for winter use.

Clean out the poultry house, spray thoroughly, making it clean and comfortable.

Feed your sunflower seeds once daily. Use one-twentieth of the feed of them.

About 10 per cent. old process linseed meal in the mash for moulting fowls is good.

Birds intended for the shows should be trained and conditioned well in advance. A wild bird in a show is a poor advertisement.

Kill off all old hens, useless males and poorly shaped fowls, as you want the best only.

Have you got your supply of beets, mangels or turnips for the winter? Pack them in sand in your cellar or pit them.

With grain and feed at present prices what should a farmer get for new laid eggs? Dr. Woods, in the *American Poultry Journal*, thinks we should get $1.25 per dozen.

Moulting Hens

While producing feathers hens require plenty of feather-making foods. Feed heavily of meat scraps or milk, and keep granulated bone always before them. Feed all the corn they will eat every night. If there is not an abundance of tender green stuff they can get on the range provide it from the garden. I always give a liberal supply of oilmeal with their mash, too. Alfalfa meal, shorts, cornmeal, bran and meat meal make up the mash I keep before my hens winter and summer, even if they are on a good range. They will not eat any more than they want of it, and they will want only what they need. A normal hen likes to rustle, and you need not fear her eating out of the hopper and neglecting to look for food on the range. She will eat out of the hopper only what she cannot get in the range, and if she does not have it in the hopper she goes without that much she ought to have had. —L.H.C.

Start a Pure Bred Flock

If you buy a trio or a small pen of five to ten breeding fowls, the investment should not be excessive, and a year or two of careful breeding ought to return you a fine, large flock of known ancestry and good points. In the meantime you could retain your mongrel stock to produce market eggs, keeping your purebreds in a flock by themselves and using all their eggs for hatching. The second season should give you enough purebred stock on hand to justify you in disposing of all the scrubs and keep nothing but top-notch specimens.—R.B.S.

Late Hatched Pullets

The cost of hatching and developing a sufficient number of young pullets to renew the entire flock must also be considered, although many farmers claim that the extra cockerels raised and sold will pay for the raising of an equal number of pullets. This may be true on farms where the facilities are adequate for hatching and developing large numbers of fowls from which to make selections for the laying flock, but on the average farm it is a puzzling problem to raise enough good pullets to renew the entire flock of layers each year. Late hatched pullets are undesirable for layers, besides late hatched chicks are more susceptible to diseases and ailments during the hot weather.—K. M. W.

Gathering Leaves

Just now we are putting away dry leaves to be used during the winter as scratch material in the hen houses. When gathered before much snow has fallen and stored in a dry place, they are much better than litter, because they do not pack so readily and contain no dust.—A.G.

The Barred Rock

Pre-eminent as layers and market fowls among all breeds, all varieties, stand Barred Plymouth Rocks. Government tests extending over many years of actual laying contests, *conducted by the Government itself*, bring out the fact commandingly that Barred Rocks are truly great layers the year round and year after year. You will find Barred Rocks winners in many such laying contests *over all other varieties of chickens*. Think what these words mean — over *all* other varieties. And then to clinch this argument—oats, the cheapest food, is a great laying food for Barred Rocks.—W. D. Holterman in the *Big Four Poultry Journal*.

Big Demand Coming

Sooner or later all Europe and a considerable part of Britain will need restocking with standardbred poultry. The demand will come as soon as the war stops or freedom of the seas is insured.—*American Poultry Journal*.

Soft Shelled Eggs

Very dusty and dirty, spoiled, musty or moldy grain should not be used for poultry feeding. Some of it may be saved by thoroughly cooking before feeding, but it is seldom ever safe to feed it. In using corn stover for litter be sure not to use any stalks on which there is smut. Rye straw is particularly liable to contain dangerous smut. Care exercised in keeping grain smut away from poultry may put a stop to the complaints about soft-shelled eggs.

New Egg Case

The safe delivery of eggs to be sent through the mail will be insured and their period of freshness prolonged at the same time by the use of a new system which has recently been patented and is now being called to the attention of egg dealers and shippers, says the *Scientific American*. The patent is on a machine which wraps the eggs in a long strip of paper, the eggs being entirely covered by the paper which is twisted about them, making them resemble a length of sausages more than anything else. The paper in which they have been encased has been dampened, and in this condition the eggs are draped around a collapsible wire frame. As the paper dries it becomes taut, and the eggs are securely held between the arms of the frame. When they are placed in a box for shipment they are supported so that they cannot come in contact with each other nor the box, and they are thus enabled to withstand a rough experience which would be disastrous under ordinary conditions. The frames are made in one dozen and crate sizes.

The Christmas Number

In the December issue of The Farmer's Magazine, *Mr. Lewis N. Clark, of Oldham Farm, well known to our readers, will tell the story of "Breeding Up a Laying Strain." It will be full of practical sense. Watch for it.*

When the Gods Judge

Continued from page 21.

the sahib had been drinking of the brandy *pani* to a large extent for days." Boodha pulled at the complaining hookah in satisfaction, having thus taken neutral ground.

"And it was the *Bhut* that killed Murray Sahib," Baloo declared. "They found him there in that accursed room in the morning dead, and his face was awful to look upon."

"I have heard in the bazaar that the sahib was murdered," the Yogi said.

"It was the brandy *pani;* ask Abdul, who was the bearer to the sahib," and Boodha turned again to the hookah.

"I go not into that room," Finnerty's *kitmutghar* declared decisively. "Of a death like that the gods are not pleased; the spirit comes back."

"For the guilty the dead come back," Kedar Yogi declared, and I could see his eyes were fastened on Abdul's face. Then he boasted: "As for me, I am but an old man, past the days that I ate rice from the *chattie* of trouble, but even I, Kedar, have no fear of the *Bhut.*" He reached for the hookah mumbling, "The guilty must have a care."

"When a tiger makes the kill of a man does it not sometimes happen that the dead comes back and rides on his back as a guide, Yogi?" the *kitmutghar* asked. "And do they wait for guilty ones? No, even a child will be taken."

"That is a matter of the gods; and, no doubt, the tiger gets out of hand when he smells food," Kedah replied.

"I am afraid, and I am not guilty," the *kitmutghar* asserted doggedly. "And Abdul, fear has turned his liver to water so that he has forsaken his sahib, and is it to be said that he is guilty, holy one?"

"Thou are a *pagle,* born of a she-buffalo!" Abdul rasped.

My attention was drawn to the old Hindoo. By Jove! I was fascinated. His head, as skinny as a skull, was thrust forward; and I never saw such eyes; they seemed on fire as he held them fixed on Abdul's face.

Finnerty's gardener, who was in the group, now said: "Once the Khedda Sahib told me to take wood to the fireplace of that accursed room, and, first putting some sweetmeats in front of Kala Beg for the god's protection, I went in through the bathroom with three pieces of pipal. When I dropped them quickly into the fireplace, from beneath came a scream as though I had hurt the *Bhut.* Boodha will witness that what I say is true."

"Thou wert lucky, *mali,*" Baloo commented, "for if the bazaar talk is true Soona Beebe came to an evil end through entering that room."

"That is the wisdom of a grass cutter's son," Abdul sneered. "Soona Beebe went to Kashmir, where is her father."

"Who took her there, brother?" queried the Yogi.

"Make thy salaams to the Khedda Sahib in the morning and he will tell thee," Abdul answered sarcastically.

"But the father gave Tez Singh, who is but come from Kashmir a message to me, who am a Yogi, to ask for our village god the finding of Soona Beebe."

"Tez Singh is a Sikh, therefore a liar.

Continued on page 67.

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cost cut in half

by using *more*

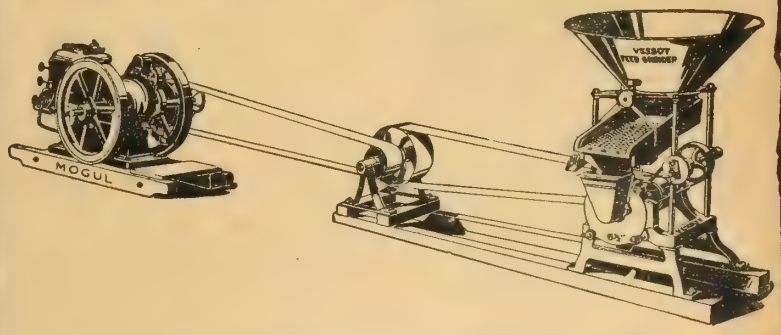
CROWN BRAND CORN SYRUP

At present prices it pays to eat less butter and more Crown Syrup.

In 2, 5, 10 and 20 pound tins, also "Perfect Seal" Quart Jars.

Write for free Cook Book.

THE CANADA STARCH CO. LIMITED, MONTREAL. 15



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NO? Well, that makes no difference. You can run a **Vessot** "Champion" grinder just as well as any miller could. With it you can save the miller's profit on all kinds of grinding—flax, barley, corn, crushed ear corn, oats, wheat, rye, peas, buckwheat, screenings, mixed grain, or any kind of feed stuff, fine or coarse as desired.

This grinder cleans grain as well as it grinds. The spout that carries the grain to the grinder is made with two sieves, a coarse one above and a fine one below. The coarse sieve catches nails, sticks and stones, but lets the grain fall through. The fine sieve holds the grain but takes out all sand and dirt. The grain passes to the grinding plates as clean as grain can be.

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To do its best work a **Vessot** grinder should be run by the steady power of a **Mogul kerosene engine.** Then you have an outfit that cannot be beat for good work or economy. Write us a card so that we can send you catalogues of these good machines.

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All correspondence should be addressed to the home office. State in inquiry if you prefer booklet in French or English.

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All classes of skilled help, also common labor. Good wages paid and excellent prospects for advancement.

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About Live Stock

Capt. Robson Judged At Royal

Capt. T. E. Robson, the well-known livestock auctioneer and Shorthorn breeder of London, judged the Shorthorns at the American Royal Livestock Show at Kansas City last month.

Prof. Carlyle for Calgary

It was announced at the Oklahoma State Fair that Prof. W. L. Carlyle, dean of the agricultural college of that state, had resigned to take the management of a large ranch in Calgary, says the *Breeders' Gazette*. Prof. Carlyle has for many years been a distinctive leader in live stock education in this country.

Big Sheep Record

Peter McGoey, of Simcoe Co., Ont., has 10 Oxford Down ewes that ran in an old barn last winter, eating pea straw and sweet clover hay. They raised 20 lambs this spring which he sold for $16 each. The wool brought him in $50—a total return of $370. Who can beat it?

Future for Livestock Very Bright

The farmers of Canada are preparing by increasing their livestock to further a continuation of the country's prosperity. The wise determination of the United States Government not to interfere with meat prices to the producer, and its counterpart here, has re-established confidence among the farmers. The cattle that have been taken out on pasture during the early summer have been coming back to the yards, carrying decent returns despite the high prices of outgo. It is well known of course that feeders can realize on grass even if the selling price does not exceed the buying price per pound of the cattle. These returns are giving the farmers good rentals for their lands and the likelihood that livestock farming will be more staple after the war is evidenced in the numbers of breeding cattle and sheep that are being saved by the farmers. The movement is also interprovincial by special arrangement between the railways and the government. This is a wise plan and a sign of future prosperity for Canada, for it is realized that a productive agriculture pays off war debts and rebuilds a country more quickly than any other method.

It is generally understood that Germany is depleting Holland's livestock and that by spring there will be none left. Breeders in America will have to supply the world shortage and prices will remain high for years. All good females should be kept at work.

Then again the guarantees by France till July 15th, 1919, of $2.62 for wheat, of $1.76 for barley, of $2.06 for corn and rye, of $1.25 for oats, as well as a similar situation in Great Britain, lend to the farmers of Canada an assurance that world needs will make agriculture highly prosperous for some time.

The war loan will likely be largely subscribed to by farmers if they are given the chance in the right way. That there is a reserve strength for financing our own way in British purchases carries with it further inducement.

International Shorthorn Judges

Robert Miller and William Dryden, of Ontario, will place the awards in the Shorthorn division at the International Livestock Exposition in December. Mr. Miller will judge the Milking Shorthorn classes. Mr. Dryden will pass upon the steers. They will work jointly or alternately, as may be most convenient, in the regular breeding classes. Originally arrangements were made with Argentina judges, as was done a year ago, but a cable advised that owing to the uncertainties of ocean sailings they had decided not to undertake the journey. Messrs. Miller and Dryden, having been selected as alternates, were then called upon to make the ratings.

These gentlemen have demonstrated their seasoned judgment on more than one occasion in important show contests

World's Livestock Population
(Latest Official Figures.)

Countries.	Date of Enumeration.	Horses.	Cattle.	Sheep.	Hogs.
Canada	June 30, 1917	3,035,254	5,967,722	2,009,717	2,513,526
United States	Jan. 1, 1917	21,126,000	63,617,000	48,483,000	67,453,000
Great Britain and Ireland	June 5, 1916	2,108,445	12,451,540	28,849,655	3,615,891
France	July 1, 1916	2,317,205	12,723,946	12,079,211	4,448,366
Spain	July 1, 1916	488,715	3,070,903	16,012,277	2,814,465
Denmark	Feb. 1, 1916	515,415	2,289,996	.....	1,983,255
Switzerland	Apr. 19, 1916	136,613	1,615,645	171,635	544,021
Italy	Sept. 30, 1915	186,217	1,120,517	1,329,559	208,522
New Zealand	Apr. 30, 1916	.....	.....	24,788,150	.....
Tunis	Apr. 30, 1916	30,963	239,989	1,147,910	10,252
Egypt	, 1916	34,403	492,650	687,696	8,580
Germany	Dec. 1, 1915	3,341,627	20,316,948	5,073,478	17,287,211

in the States and the International classes will be in capable hands.

There is every prospect that the Shorthorn display will not only be extensive, but of outstanding individual strength, well conditioned in spite of soaring feed costs.

Western Cattle Receipts

In the nine months ending September 30th, 13,948 more stockers passed through the Winnipeg yards than for the same period in 1916. Of the 38,579 head of stocker cattle received at the Winnipeg yards, 20,267 went back on to the Western farms to be finished, while the United States have received a much smaller percentage than in previous years.

Manitoba Goes to Montana for Sheep

The Manitoba government officials, not being able to buy enough sheep in Ontario at the stockyards, are going to Montana for them, the import duty being taken off in order to get them in.

Experiments With Milk as Food

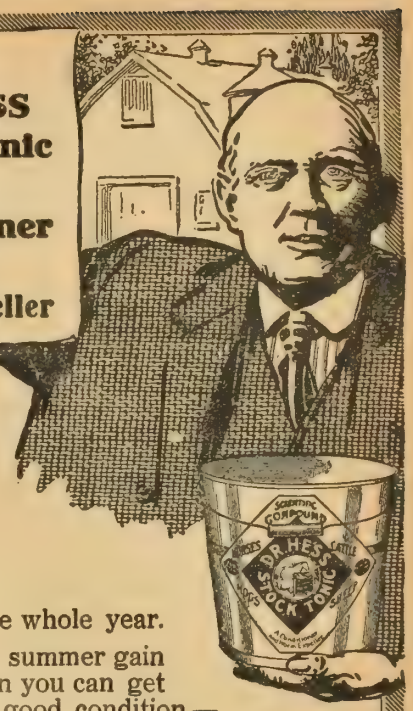
An elaborate study of different grades of milk for infant feeding has been made by Messrs Washburn and Jones, of the Vermont Agricultural Experiment Station, at Burlington. The experiments were carried out with baby pigs, on the assumption that the results are, in general, applicable to human infants. A comparison was made of the effects of feeding skim, medium and rich milks, note being taken of the resulting size, weight, agility and other qualities of the young pigs. The general conclusion was that the body of the animal should not contain much more than 1.6 parts of fat for every one part of protein, and that this composition could be obtained by a ration carrying a nutritive ratio of about 1:3. A study was made of the relative values of Holstein and Jersey milks, leading to the conclusion that the size of the fat globules has no practical bearing on the relative values of milks in infant feeding, and that any superiority for this purpose attributed to Holstein milk is more likely to lie in its comparatively low fat content than in the small size of the fat globules. Experiments with homogenized milk indicated that homogenization of the fat is not helpful in feeding the young. Tests were also made with evaporated (unsweetened) and condensed (sweetened) milks. Both were readily digested and assimilated. Evaporated milk was found to compare very favorably with normal milk, but sweetened condensed milk, while showing an abundance of energy value, proved to be an undesirable food for the young, since its nutrients were so proportioned as to produce a weak and dangerously fat body. Other important studies related to the effects of milk food upon the structure of the bones, especially in connection with rickets and other forms of malnutrition. The femur of the average pig fed sweetened condensed milk was by two-thirds as strong as that formed when normal milk was fed. Evaporated milk was nearly equal to normal milk in this respect. The results of these studies and many others relating to milk are set forth in Bulletin 195 of the Vermont station.

My Stock Tonic is never peddled.

25-lb. Pail, $2.50; 100-lb. Drum, $8.50.

Why Pay the Peddler Twice My Price?

Dr. HESS Stock Tonic is a Conditioner and Worm Expeller



Keep Your Animals in Condition

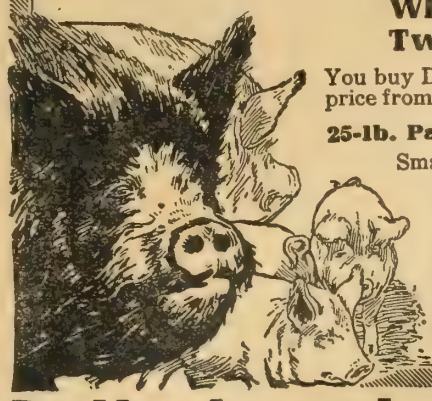
Now is when your stock need special attention because the change from pasture to dry feed is one of the most critical periods of the whole year.

You can lose more pounds of summer gain through November neglect than you can get back all winter. Keep up the good condition—keep up the summer thrift—keep out the worms.

Dr. Hess Stock Tonic

Drives Out the Worms. Makes Stock Healthy

Keep the animals' systems right and you need have little fear of disease. Stock Tonic tones the stomach and the digestive organs, gives better action to the bowels, improves the blood, purges of worms, and gives real life and vigor. The *Nux Vomica* in it aids digestion. *Quassia* is a true tonic and a worm expeller. The *Sulphate of Iron* is a blood builder and worm expeller. There is *Epsom Salts* for a laxative, and *Nitrate of Potash* to act on the kidneys.



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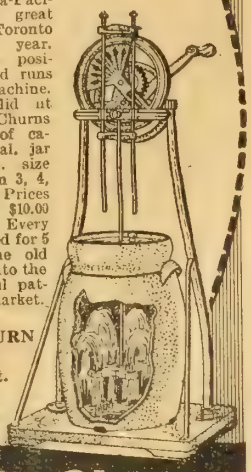

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CARBOLA
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It disinfects and paints at a single operation.

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Carbola comes in powdered form—always ready for use, never spoils from standing. Mix with water, and apply with brush or sprayer. Won't clog the sprayer. Dries pure white. Doesn't blister or peel off. Used and recommended by farmers everywhere. Booklet and trial package containing enough Carbola to cover a 250-sq.-ft. surface sent for 25c and the name of your dealer.

10 lbs. (10 gallons), $1.35 at Toronto
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The Business of Dairying

Small Hard-pressed Cheese

By WILFRID SADLER

THE small cheese is one pound in weight and incorporates advantages of both the hard pressed varieties and the soft cheese varieties with a minimum of the disadvantages of either. The chief difficulty hitherto experienced has been that practically all attempts to reproduce in miniature such cheeses as Cheddar, Cheshire or Leicester have resulted in a cheese having a thick rind, thus causing much waste at cutting up; and further, one which failed to ripen properly due to the fact that it dried up and became hard and chalky in texture with little or no flavor. In the cheese of which I speak, these difficulties have been overcome. The qualities of a hard pressed variety, Cheddar or Cheshire, are obtained and yet it is ripe and ready for consumption ten days after making. If, however, trade considerations demand that it be kept in storage as long as six weeks, it is equally palatable and typical. This cheese as regards early maturity and the incorporation of moisture bears some relation to certain classes of soft cheese, while at the same time it possesses the distinctive qualities of a typical ripened hard-pressed cheese with respect to flavor and texture.

With respect to the necessary equipment the utensils required are in general those common in a cheese-making dairy or factory; but if such need to be purchased it may be taken as a fair average that the initial outlay is about $10 per cow. When small quantities of the cheese are to be made the whole outfit can be purchased for $50; and if large quantities are to be manufactured the only additional expense entailed is that of a larger sized vat. In the making of this, as in all varieties of cheese, a fundamental essential is clean, wholesome milk free from taint. Starter is added at the rate of 1%. The cheese may be made either white or colored, and if the latter one dram of annatto to four or five gallons of milk gives a suitable color. The temperature of the milk is now raised to 84 deg. F. and the amount of acidity determined by means of the rennet test, a test which for milk at rennetting is much more satisfactory and one which gives much more uniform results than the acidimeter test. When the temperature and the proportion of acidity are satisfactory the rennet is added at the rate of one dram to 2½ gallons of milk, 2½ ozs. to 1,000 lbs. milk, or such amount that coagulation is completed in 40-45 minutes. For the cutting of the coagulum ordinary curd knives are used, vertical and horizontal, the blades of the former being ⅜ in. apart and those of the latter ½ in. apart. The coagulum is cut lengthwise and across in such a way that it will leave the sections of curd ½ in by ¼ in. The particles of curd are gently loosened with the hand, and this is continued for ten minutes or so. After having remained for a few minutes in the whey, the curd is subjected to the process of heating, cooking or scalding. This process should take some 20 minutes, the curd meanwhile being stirred until a final temperature of 90 deg. F. is reached. Stirring is still continued until a suitable firmness of the curd is apparent and the particles are then allowed to remain lying in the whey for some 20-30 minutes. When the acidimeter test shows .15-.10% acidity, the whey is drawn off, the curd cut into 4 in. cubes, piled, covered up with cloths and left for 15 minutes. Again the curd is cut into similar cubes, turned in bulk and each cube broken into halves; this assists in the getting rid of the whey and has considerable influence on the "short" texture so much desired in the final product. The curd is again covered up and left for 15-20 minutes. Grinding is the next operation and is usually possible about one hour after the drawing of the whey. The acidimeter test should show about .5% acidity. The curd at this stage is soft and velvety to the touch, and it should break "short" rather than have any tendency to toughness. It is ground to a fine state, salt added at the rate of 1 oz. to 3 lbs. curd, and put into the moulds at once. The moulds are made of well-tinned metal, 4 in. in height, diameter, 3½ in.; the bottom of the mould is closed except for a hole in the centre 1½ in. diameter; a loose tin follower is used in the bottom, and a wooden follower 1 in. thick is needed to cover the curd at the top. The weight of curd obtained varies with the season of the year, but averages 1¼ to 1½ lbs. per gallon of milk. Immediately the moulds are filled they are put under the press and left for 2 hours with just the deal weight of the press applied. *From the time of adding the rennet to the grinding of the curd the whole process has occupied as a rule not more than 3½ hours.* After being pressed as stated for 2 hours, the pressure is released, the cheese are taken out and turned and again pressed for a further 2 hours, this time a little additional weight being added. The pressure may now be finally released. The cheese are allowed to remain in the moulds during the night and through the following day. They are then smoothed up with

a palette knife and bandaged with calico and paste; or if more convenient they may be smoothed up and paraffined. They are removed to the ripening room and in this connection I may say that we have obtained good results when the cheese are required to mature in, say, 10 days' time by using a ripening room at a higher temperature than is commonly in vogue; as high a temperature as 60-65 deg. having given satisfaction. Of course, if the cheese need to be kept for a longer period they must be moved after the first few days to a cool or cold room. Usually slightly more than 1 lb. ripe cheese is obtained per gallon of milk, and for trade purposes it is recommended that these small cheeses be wrapped in tinfoil.

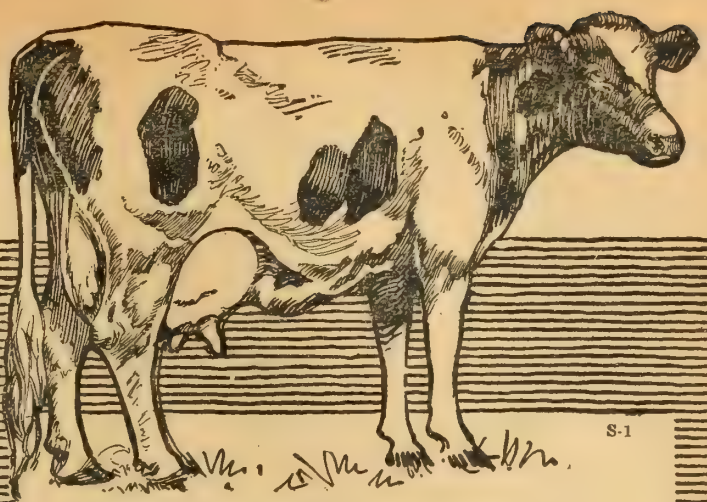
As to the characteristics of the cheese, it is a little softer than the Cheddar and has a flavor all its own. The texture may be described as soft and granular, embodying the salient features of a typical Cheshire or Leicester, while to the touch it is rich and buttery. When bored with a trier, the fatty, smeary appearance on the back of the iron is such as is usually found only in a ripe old mellow cheese. If the top surface of a mature cheese be gently pressed with the thumb in a manner so well known to those in the trade, a perceptible break in the surface round the edge of the thumb will be noticed, showing the delicate and fragile nature of the texture.

Dangerous Strainers

A fruitful source of bacteria in milk is the strainer. Brass strainers are sometimes placed in milk pails. These are often so filled with dried milk that the milk flows through but slowly. Often a cloth strainer is used and washed after each milking. If this is not washed carefully with cold water, then with soap or cleansing powder and warm water and then thoroughly scalded it becomes a prolific source of contamination. The strainer, after having been scalded should be hung in the sunshine to dry and air. The pail should be washed in the same way and then placed in the sunshine to dry and air. All utensils used in connection with milk should be kept as clean as possible at all times.

Sore Teats

This trouble may arise from rough milking of tender skinned cows, from cracks in frosty weather, or from a contagious disease. It is advisable for dairymen to keep on hand some simple ointment to apply when the soreness is first apparent. A good mixture to keep on hand is 1 drachm oxide of zinc with 1 oz. of vaseline, applying whenever necessary. Another useful dressing is tincture of myrrh, 1 oz.; solution of alumn, 1 oz.; water, 6 oz. When the teats are not only sore, but break out in pimples and form scabs, the trouble may be accepted as cow pox. The cow should be isolated, and every precaution taken to prevent spread of the disease, which is very contagious, and may be taken from one cow to another on the hands or clothes. The usual practice is to keep the udder clean, and dress with carbolized vaseline. Another remedy is to dress three times a day with an ointment made by mixing 4 drachms boracic acid, 20 drops carbolic acid, and 2 oz. vaseline. If the teats from any cause are sore, it may be necessary to use a teat syphon to draw the milk. This should be carefully sterilized before using.



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Building and Farm Construction

Hints on Plans, Supplies and Installations of Farm Buildings

Using Wallboard in the Winter

Many a farmer can do some "fixing up" in his house during the idle days of winter that will stand him in good service. The one item of the garret or third story might be worth looking into. It is a mussy job to fix one up when lath, plaster and wallpaper have to be used. But if wallboard is used it becomes easy and interesting.

The possibilities of the attic are almost unlimited. Of course, the extra room or rooms can be used for bedrooms. Often a play room is desired for the children so that they will be out of mischief, where they can play to their heart's content without exposure to chills or colds. Or a room may be fixed up for the maid. Again, if there are billiard or pool enthusiasts in the house, the extra room can be used as a billiard room. Possibly the man of the house has a long cherished but seldom expressed desire for a little den or study. And if there is a phonograph in the house the attic can be readily finished into a home ball room.

This is the age of the small room and compact furniture. Many homes built a decade or generation ago have large rooms that could be rearranged into two or more rooms. Then there is always the room where the plaster is cracked and falling that could be made much more sightly and serviceable by a restoration with wallboard. Even the garage in winter time seems to feel the need of walls and ceilings and the car owner is glad to have it lined. The farmer can do all the work himself and make the job look neat and clean.

Concrete Work in Winter

Many farmers can profitably work during the winter with their help, in making fence posts, gate posts, concrete blocks, small tanks and troughs.

Care of Oak Floors

If one only knows how, nothing is easier than the care of a well finished oak floor. Usually the care of floors is entrusted to the discretion of servants whose intentions may be good but whose methods are more often bad.

There are several preparations put up by varnish and wax manufacturers that give excellent results for cleaning and the care of oak floors which can be bought at any hardware or paint store.

Never use water, oil, kerosene, turpentine, soap, Gold Dust, Dutch Cleanser, or any other cleansing agents, except as follows:

In addition to the space regularly devoted to articles on farm building and construction, we will be glad to answer any inquiries along the lines of plans for farm buildings, the repairing or making over of buildings now standing, systems of ventilation, heating, etc. We also welcome any suggestions from our readers as to any building arrangement which they have found especially good on their own farms or in their homes.—EDITOR.

Shellac Finish.—If water has been spilled upon the floor and it has turned white in places, moisten a soft cloth with a little alcohol and lightly rub the spots, which should immediately disappear. Do not repeat this operation too often, however, or the finish will be entirely removed. Shellac-ed floors sometimes take on a clouded or grayish appearance due to dampness in the air. This condition can usually be greatly improved by the same treatment as above. If the finish has become so dirty that it is necessary to remove same entirely, first scrub the floor with wood alcohol and then bleach it with oxalic acid—never use lye, as it turns the wood black and ruins the surface permanently. After all moisture has evaporated the original finish may be applied.

Varnish Finish.—If the finish has become badly worn, thoroughly scrub it with a brush and Sapolio and water (never flood the floor). After it has dried out, apply a thin coat of varnish; or in case time cannot be allowed for the varnish to dry, wax may be substituted. Do not use shellac on top of old varnish or varnish on top of old shellac.

Wax Finish.—Waxed floors should be dusted daily with a broom covered with canton flannel. Keep a can of wax on hand, and should the finish become worn in the doorways or elsewhere, apply a thin coat, rubbing well into the wood. Allow the wax to dry for one hour and then polish thoroughly. Before rewaxing the floor, scrub it thoroughly with turpentine and a piece of cheese cloth.

A splendid type of farm house for a big family in Western Ontario.

Removing Silo Forms

Taking one year with another, it makes practically no difference with the keeping of the silage at the top whether there is a roof on the silo or not, says Matt. King in the *American Builder.* If the fall happens to be wet, and there are several rains immediately after filling the silo, it is some advantage not to have a roof on the silo. If, however, there is a week of hot and dry weather immediately after filling, it would be decidedly better to have a roof on.

The idea is this: The top of the silage should be kept level and tramped, and—if at all convenient—wet down daily during the settling period, which continues for about a week after the silo has been filled. That promotes a rapid decay on the surface and so forms a thin, black, wet, air-tight surface of decayed material which will protect all of the material below it from exposure to air and consequent decay. If allowed to take care of itself, it settles unevenly and the heat dries out the surface, causing it to become fluffy and allowing the air to penetrate as much as several feet, thus spoiling a large amount of good feed.

Permanence in roof construction is about as important as in the walls. We put on brick and block roofs without any false work. And even with concrete the false work does not delay the game very much. Concrete roofs put on yesterday afternoon may and, in order to save time, should have the forms taken out this afternoon. Good bye, we're off to the next job. What do you think of it? It sounds pretty fast, but it has been done thousands of times and has not failed yet.

Here is the way it started: We happened to have put on a concrete roof one Saturday afternoon. On Sunday I did not go to church, but stuck around, wetting down the roof a couple of times. The roof needed wetting, as it was very hot weather, and by staying on the job I could wear less clothes than had I gone to church. Besides that, I felt more at home. Of course, understand, I felt at home at church, but just a little bit more on the farm.

The roof was between a one-fourth and a one-third pitch cone. The silo was sixteen feet in diameter. The concrete was

about 3 inches, or a trifle less, in thickness at the wall and about 2½ inches thick at the peak. There were steel rods extending around the roof imbedded in the concrete on the wall, and some woven wire stock fencing in the concrete of the wall roof.

It takes something akin to faith to substitute figures for common sense. Monday morning the mason, Coon von Zee, and I were standing on the roof over the wall discussing the matter. Finally I suggested that we take the false work out. The reply was a quizzical smile and the suggestion that I go under and cut it loose. I think I figured the whole thing over again while taking a firm grip on my hand ax to knock out the first prop. You see, it was forty feet to the ground, and I had a wife and baby girl at home.

It worked all right. But even that did not satisfy that Holland Dutch mason. He did the next job alone. He finished the roof one afternoon and pulled out the false work the next morning. I saw him afterwards and explained to him that even though his wife and four babies were nice, nobody wanted the job of taking care of them, so he had better let the next roof have a little longer time to set. But I failed to reform him. He built a bunch of them that way and got by with all of them.

Afterwards we tested one of these roofs by piling 87,000 pounds of sacked sand and pig iron on the peak of the roof before the concrete was twenty hours old. There was not a single check or crack as a result.

Twelve Hours to Grow an Acre of Wheat

It has been found that even with good management on the part of the farm owners and tenants, with good horses, with tractors of proven efficiency and with the aid of labor saving machinery, that 12 hours of human labor are required to grow an acre of wheat. An hour or two more than this is needed to grow an acre of oats; while corn requires at least 25 hours and this where fields are large and topography of the land such as to make possible maximum use of machinery. Where fields are small—say from 5 to 10 acres—it takes as long as 50 hours to care for the crop from plowing through to harvest. Now if the quantity of these crops is secured by increasing the acreage it means first and foremost more labor—and this labor cannot be found. Secondly increased acreage may mean longer hours—and experience in the British munition factories as well as in American factories has shown that long hours do not pay. If, however, every hour spent in growing these great staples be put in on fertilized land,—on land where plant-food lack does not limit the crop—then our present labor supply will be abundantly sufficient for the larger crops needantly sufficient for larger crops needed.

Cost of Producing Milk

"I own a farm and I feel it is a good one," says May Irwin, the celebrated actress. "We raise good cattle that give a good grade of milk and we feel we should be paid a price for that milk that is a fair return for the cost of production. People in the cities do not know anything about the farmer's end of the deal, and they should know. I'm in favor of letting the people know what it costs the farmer to produce milk. Then they will pay the price. It is those who do not know who do all the kicking."

Important Notice

Present Conditions Make An Increase in Price Probable

The tremendous increases in the cost of raw materials and labor have already forced the publishers of leading periodicals and dailies in Canada and the United States to advance their single copy and subscription prices from 33 1/3% to in many instances 100%. *Yet the price to you of*

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Building a Poultry House

Outside view of hen house Lower half of windows are cloth.

THE open front type of house is the kind of building now recommended and may be found all over the country. This building is closed on all sides except the south or southeast, which should be the front. This side is either partly or completely open to the outside air to provide light and ventilation without drafts. These openings may be covered with cloth to break the force of the wind if desired, or a combination of cloth and glass may be used to protect the interior in bad weather at all seasons of the year.

In locating a poultry house the drainage of the ground and ventilation of the building should be watched very carefully. The ground on which the building is located should have a gentle slope to the south or southeast. If the soil is not dry, it should be made so either by artificial draining or by filling in with a material that will prevent water from collecting around the building. A light loam is well adapted for this location, while a slight sandy soil through which the water passes freely will stand more intensive poultry conditions. A heavy clay is not suitable for a site, as such land does not drain easily.

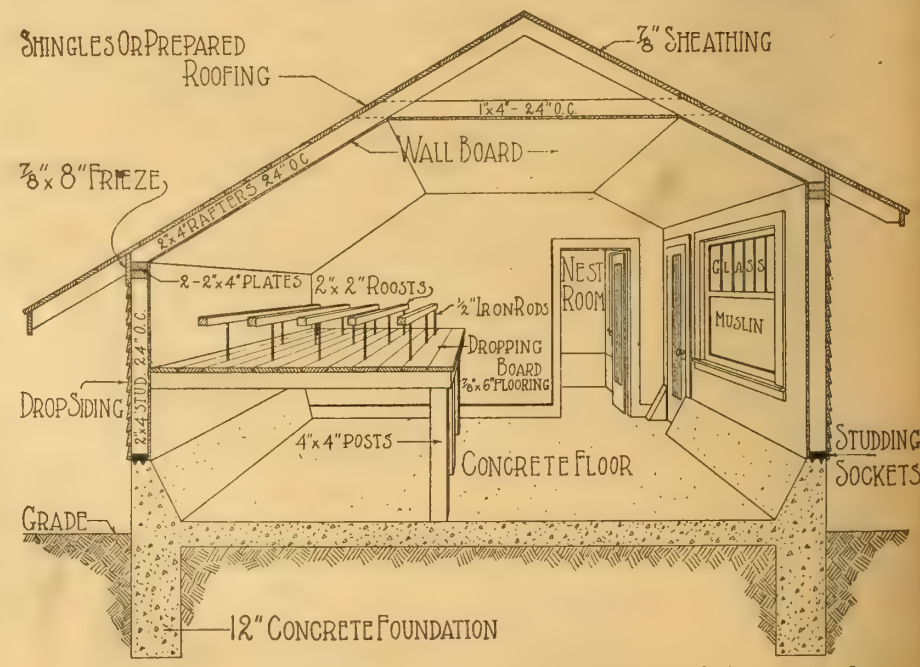
Fowls are very susceptible to the bad effects of poor ventilation and every poultry house should have some means of providing a plentiful supply of fresh air in the interior. The air should enter in such a way as to avoid drafts, and the open or curtained front referred to above is the common method used. An additional supply of air may be provided by making openings in the gable ends of the building and allowing the air to pass through a layer of straw inserted near the ceiling to break the draft.

Sunlight is also needed to keep the interior in a healthy condition. The cloth frames admit a certain amount of light, but it is advisable to use a few glazed openings, so that the direct sunlight may enter. A large amount of glass makes the house warm during the day and cold at night, since the glass radiates heat very rapidly. The location of the glazed openings should be high enough to allow the sunlight to penetrate well into the interior during the winter.

The size of the house will depend upon the number of fowls which are kept in it. From 2 to 5 square feet of floor space should be allowed for each bird. Since the matter of ventilation is provided for by the openings, the floor area is the important point. Authorities tell us that this item of floor space depends upon the kind of poultry kept and upon the system used. The small breeds, such as Leghorns, require less floor area than the larger ones, such as Brahmas. The colony system of housing requires less floor space where the birds have free range than when they are allowed small fenced-in areas, as in the intensive system.

The foundation may be of concrete, either in the form of walls where a concrete floor is used, or as posts set at the corners of the building and at intervals along the sides if the dimensions of the building warrant it. Wood posts may be used instead of concrete in buildings of moderate size. If wood is used, it is advisable to paint the posts with at least two coats of creosote oil or dip them in a tank filled with the oil before putting them into the ground.

The floor may be of concrete, of wood, or even of dirt. The kind best suited in a given instance depends upon the soil on which the building is located and the use of the house. Concrete floors are adapted to all permanent buildings where an arti-



General plan of construction of hen house. Some lay their cement flat on the ground without foundations.

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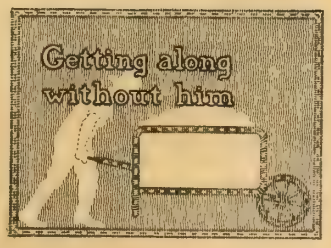

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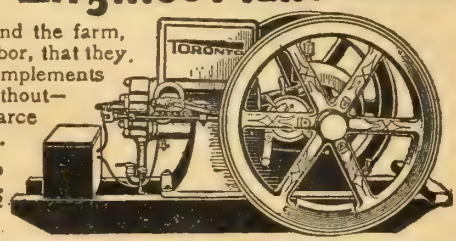

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ficial floor is required and can be built direct on the ground. The level at the top surface of such a floor should be from 4 to 6 inches above the ground level to insure a dry floor. The floor slab may be about 4 inches thick and covered with a finishing coat of concrete about 1 inch thick. It is advisable to place the floor on a foundation of cinders, gravel, or broken stone if there is any danger of dampness in the soil. This foundation should be about 4 inches deep and tamped firmly into place.

The concrete for the floor slab may be made of one part Portland cement, two parts clean sand, and four parts of broken stone or screened gravel. The finishing coat may be of one part Portland cement and two parts clean sand.

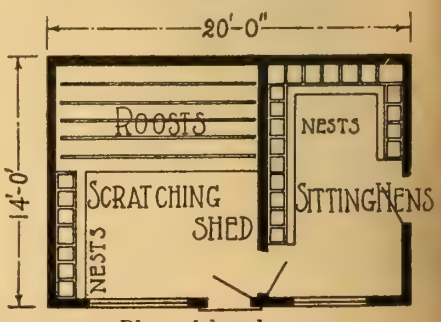
Wood floors are used when the level of the floor in the house is from 1 to 3 feet above the ground surface. This allows dogs or cats to get underneath to prevent the harboring of rats, and also allows free circulation of air to keep the wood from rotting. In general, a tight board floor, well oiled to keep down the dust, and well covered with straw, is the most satisfactory for ordinary use. These floors are made of matched flooring and are laid double in cold climates. The lower layer of boards is laid diagonally across the building to strengthen the floor and brace the structure. The top boards are laid across the diagonal boards and make a tight, warm floor. Floor joists may be of 2 by 4, 2 by 6, or 2 by 8-inch stock, depending upon the load to be carried. They should be spaced from 16 to 24 in. on centres. Three-quarter-inch mesh wire laid under wood or dirt floors prevents rats from entering through the floor.

A dirt floor is satisfactory in small houses located on light, sandy, well-drained soils. Such floors should be from 2 to 6 inches higher than the outside ground level, and it is advisable to renew them with a clean layer of top soil each year. A layer of fresh sand or fine gravel is recommended for a surface coat.

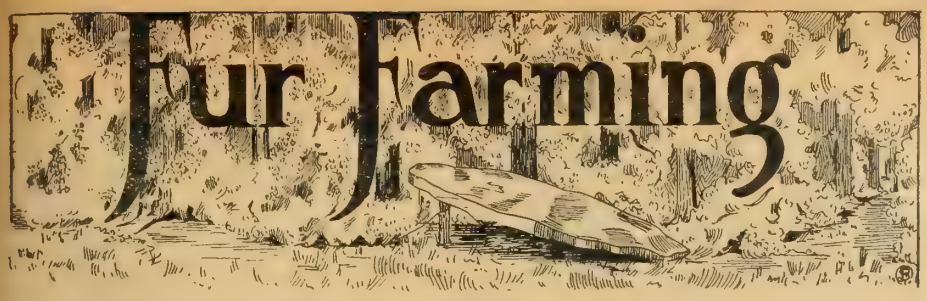
The walls are sheathed both inside and outside in the house shown. If desired the inside sheathing may be omitted and the outside covered with clapboards, shingles, or siding. It is advisable to place a layer of sheathing paper on walls which are to be shingled. When the siding is placed in a vertical direction, the boards may be 10 to 12 inches in width with the cracks covered by battens 2 to 3 inches wide and 1 inch thick nailed to the boards. It is said that ordinary matched boards 1 inch in thickness and not over 6 inches wide, make a very satisfactory wall covering if kept painted.

The roof rafters are of 2 by 4-inch stock in the building. If the span of rafter is not over 12 to 14 feet, this size will be sufficient when the rafters are spaced 2 feet apart on centres. If there is danger

Continued on page 64.



Plan of hen house.



Getting a Start by Trapping

By ROBERT HODGSON

THERE was nothing in Frank Holden but what should be in every ordinary boy, that is, the desire to get ahead and make good and he succeeded. Any boy can do likewise if possessed of a little grit and pluck.

Ever since Frank had passed the entrance and quit public school he had a great desire to have a business college course, more so since a prominent business college began writing him tempting letters and sending him circulars. It was, of course, not very expensive and plenty of his acquaintances had gone through and already had positions, but he was on a farm, his father had taken ill, seven horses had been killed on the railroad by a midnight special returning from Toronto Exhibition for which they received the huge (?) sum of four hundred and fifty dollars and one thing and another had come along until the place had to be mortgaged and at this time his father could not afford to send him.

Frank had made up his mind to go, however, and being a great lover of hunting and outdoor pursuits, and knowing the fur-bearing animals were fairly plentiful on their land, and in their streams and those adjoining, he made up his mind to try in this manner to secure money to put him through.

In the fore part of November he sent to a fur firm for 3 dozen No. 1 and 1 dozen No. 91 double-jaw traps; 1 dozen fur stretchers and a smoker. The traps cost him a little more than the cheaper kind, but he wanted to be able to hold what he got into them and he also wanted what he did get to be good. The whole outfit cost him in the neighborhood of thirteen dollars.

He got them out before the middle of November, but he was kept fairly busy doing the fall plowing, getting in the roots, corn and such until the 26th of November when it froze up, and having more time he devoted it all to his trapping.

He already had a 22-calibre repeating rifle as well as a small and a good knife and this comprised his outfit.

Muskrat hunting on an Ontario marsh.

First of all he secured the consent of the owners of adjoining lands to hunt and trap thereon and then began setting out his 3 dozen No. 1 for muskrat and mink, six of the large ones he set for raccoon and six he kept for skunk.

Loving as he did being out in the open it was indeed a pleasure to be out working and setting his traps and he was about the happiest boy alive while setting and baiting them all, especially when he thought he was working for something worth while.

The next morning shortly after daylight he was making the rounds breathlessly. He looked at each trap hoping, yet hardly expecting, to find a big mink in one of them on his first round, and while he secured no mink he had two muskrats. He carefully skinned and stretched them, and after doing up his chores grabbed the smoker, rifle and his skunk traps and calling his fox terrier started for the hills, which he knew were full of skunk holes, whether or not of skunks he had yet to find out.

The first hole he came to showed somewhat recent signs, and making sure it had two openings he reached down as far as his arm could go and pulling up a large handful of dirt found it liberally sprinkled with black and white hairs—evidence of skunk. He set one trap in one of the holes—tied the chain to a long pole and then set three more traps outside the hole and staked them so one skunk could not get into two traps.

Calling the dog beside him for fear it should get in one of the traps he lit the smoker and began pumping the sulphur flames into the hole with no results for several minutes. Then things began to happen. A blur of black and white flew out of the hole, the chain rattled and he saw he had at least one skunk. Then out came another, another and yet another. The second one got caught in a trap, the other did not and began making away and the dog making a leap after one landed in the trap and began letting out most unmerciful howls. Frank, completely upset with the good luck he was having paid no attention to the dog, but grabbed the rifle and unsteadily began firing at the foremost skunk as he saw they were both headed for an old rock pile where he would be unable to smoke them out.

The rifle was trembling and "spit spitting" spitefully until Frank steadied himself and knocked over the first skunk, drew a bead on the second and bowled it over, exclaiming as he did so, "By George, that's the last shot in the magazine."

By this time the air was full of dog cries, odors (oh, oh), and Frank seeing the plight of the dog knew he had better not go near until he had shot the other

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skunk. Hastily reloading his rifle he gave the one caught near the hole a shot in the spine which paralyzed it and found the other had ducked down in the hole so far he could not see it. Taking hold of the end of the pole he had the trap tied to he gradually pulled him out and shooting it released the dog and sat down for a few minutes to think it over, as in his wildest fancies he hardly expected such luck as this, at the very beginning.

He then set to work to skin the skunks, which took him all forenoon; spent his time washing his hands in gasoline to rid himself of the odor, as he could readily see it hardly agreed with his father.

After the supper chores he went to the old implement shed to sit and dream over his furs and coming money and was anxiously awaiting a price list.

One night about a week later when he had added considerably more to his collection, he was going to the village and he heard a faint call away to the north in the heavy timber. He listened and heard another and instantly knew they were raccoons. He began running to the house for his gun and a light, and meeting a neighbor the latter inquired his hurry. Upon telling him the neighbor said: "You go to the house and tell my wife to give you my big flashlight and put in a new battery for you. It's what you want for hunting coons."

He did so and then running home got his father, the dog and his father's shotgun and started off, being guided by the howls, and finally, after much hunting, managed to "shine" one with a powerful flashlight, whereon his father shot it.

It is not necessary for me to enumerate the various events of his success and experiences. Suffice it to say that during the fall trapping he secured twenty-two skunks, six of which were black, three mink, a weasel, twenty-one muskrats and another coon beside the one mentioned. The snow came and it was necessary to pull them up until spring when he again secured eight more skunk, three mink, one coon and forty-seven muskrats. The coon, mink and skunk, however, had begun to shed and were not so good as the winter pelts, his total catch being six mink, three coon, one weasel, sixty-eight muskrats and thirty skunk, for which he secured the princely sum of one hundred and fifty-four dollars and fifty-five cents.

Most of the skunks he smoked out and the neighborhood not being trapped much has yielded well.

He is now through business college and is holding a good position in Montreal, and while home for a few holidays a neighbor offered him ten dollars for his smoker, traps and stretchers, or eight dollars for the traps. He said, "No, sir, they are not for sale. They gave me an education, and even if I don't need them again I intend keeping them for a while home here as souvenirs."

BUILDING A POULTRY HOUSE

Continued from page 62.

of heavy snow load, or if the span is larger than named above, it is better to use 2 by 6-inch rafters or a purlin. The purlin may be a piece of 2 by 6 or 2 by 8-inch stock set on edge and located lengthwise of the building halfway between the front and back walls. This serves as a support for the ends of the rafters which reach from wall to purlin.

The roof may be sheathed and covered with building paper on which is placed a layer of shingles or prepared roofing.

All queries must be accompanied by the writer's name and address. If personal answer is required, enclose a 3-cent stamp. Address all correspondence to Grasmere, THE FARMER'S MAGAZINE, *Toronto, Canada.*

Seedling Apple

T.E.S., Nova Scotia.—1. I have a new seedling apple, "Leonard," raised by a neighbor which is too good to be in obscurity. Will send a sample by mail and if you want a further report will be pleased to send same. When it first bore, a Canadian nursery firm offered $150 in nursery stock for control of it. But the originator had no use for the stock and so refused. As the markets call for a large red apple this surely ought to fill the bill. Its bearing qualities more than make up what it may lack in flavor.

2. If you had heifers you were fitting for the butcher, would you aim to have them bred? Would they grow faster?

Answer.—1. Your apple has not arrived as yet. True, the market wants a medium sized red apple. But if the flavor is off, as your last sentence seems to indicate, it may be that it will not be worth while adding another variety to our present lists. I have two apples on my farm, which are natural fruit and are decidedly fine apples. One, which I call the "Nelson" apple, is a medium sized red-streaked apple, with a delightful flavor for sauce or pies. It bears heavily. I sold the apples on it this year for $20. The other looks like the Duchess, only it is two months later and would follow up the Duchess in the market nicely. It has a delightful flavor when cooked. It is a young tree, having a bushel on it this year. Have you sent your apple to Prof. Macoun, Dominion Experimental Farms, Ottawa, for his opinion?

2. Heifers generally feed better for the early months if bred. Where they go to the butcher within two or three months of being bred, it is often a good policy as it keeps them quieter.—Grasmere.

Pulpwood Markets

W.H., Ontario.—As subscriber of your paper kindly allow me to ask you if you are in the position to give me some addresses of people in the market for pulpwood I have mainly poplar for sale.

Answer. — Write to Robson Black, Forestry Department, Ottawa. He will give you a list of the pulp and paper mills nearest to you.

Polishing Hardwood Floors

A.V F., Ontario.—I would like to ask your advice as to what is the best way of finishing the floors of a new farm house. There is hard maple in the dining room and soft maple in the other rooms. Some condemn varnishing as being so liable to show scratches and others say that an oiled floor is hard to keep bright and clean. I would rather a natural finish than painted. What is your opinion and how should it be put on? I enclose stamp for personal reply so that I may know as soon as possible.

Answer.—We have an article for use in this issue on the subject. I enclose a copy of it in advance. I trust it meets your needs. Many thanks for kind words about the magazine.

Header Information

H R.S., Alberta. — Can you tell me where I can get information about the "header" and how it works. What company manufactures them? Is the grain threshed at the same time as cut?

Answer. — Some machines thresh the grain as it is cut. But the simpler ones take the heads off only. These machines are not in use in Northern U.S. or Canada. Write to the big implement firms in the States for catalogues showing them.

Law Book for Farmers

J.R.S., Quebec.—I should like you to send me the name of your law book for Canadian farmers, also a list of all your farming books. Is the law book published in French as well as in English?

Answer.—Have sent the lists. See advertisements for some of our books in the magazine. The law book sells for $1.50. The book is not published in French.

Powdered Milk Machinery

J.H.McB, Ontario.—As a subscriber to your magazine I take the liberty of asking if you can inform me where I can procure information concerning the process of manufacture of condensed and evaporated milk and names of firms making such apparatus?

Answer.— You will find that the R. R. Rogers Co., 40 Chope Place, Detroit, Mich., and the Creamery Package Manufacturing Co., 61 W. Kinbie St., Chicago, Ill., are the biggest makers.

Flax Attachment for Mower

J.B.K., Alberta.—Can you inform me where I can get a flax attachment for a mowing machine?

Answer. — The only company that I know of manufacturing any attachment for a flax machine is the Foster & Williams Mfg. Co., Racine, Wis., and the New Winona Mfg. Co., Winona, Min. Undoubtedly, either of these companies could give your subscriber the information he desires. — F. M. White, Wisconsin Agricultural Engineering Dept.

Pulpwood, Etc.

J.R.S., Que.—1. Where can I get a good book on Forestry in Eastern America—a book describing all operations concerning the handling of pulpwood, etc.? I should like the names of the three best books you know of on the subject.

2. What is the address of the Toronto booksellers McClellan and Goodchild?

3. Is there any book which covers the subject of law for Canadian farmers?

4. What are some of the chief peat districts in Eastern Canada? How can I get in touch with owners of peat land?

5. Can you give me information re the Smith Form-a-tractor used on Ford cars? Would it be economical on a farm with 20 acres under cultivation?

6. What are the chief mule-breeding centres of Eastern Canada, and what is considered an average price for individuals at one, two and three years of age?

7. What are the chief industrial homes for immigrant boys in Quebec or Ontario?

8. Are there any breeders of Hampshire swine in Eastern Canada? Where?

9. What is a fair price per ton for corn fodder from which the ears have been removed?

10. How does the bean crop of Canada and the United States compare with that of last year?

11. What is the latest and best book on farm veterinary practice?

Answer.—1. I am not aware that there are any books published on Forestry, and especially on the pulpwood industry in Canada. There is nothing very much to know about this except to get the wood cut and to get it to the station and sold.

2. The address of McClellan and Goodchild is 266 King Street West, Toronto.

3. We sell a law book for $1.50 here covering all points in Canadian law for farmers.

4. One of the chief peat districts in Ontario is near Welland. You will get full information as to the peat deposits in Canada by writing to the Department of Mines, etc., Ottawa.

5. The Smith Form-a-tractor used on a Ford car, it seems to me, would be quite economical for use on a small farm, provided you have no stones or very hilly land to cultivate.

6. There are no mule breeding centres in Eastern Canada as mules are not raised to any extent at present.

7. Write to Mr. J. J. Kelso, 153 University Avenue, Toronto, as to information on the industrial movement for immigrant boys in Ontario. You might write to the Quebec Government in Quebec for similar information where you will get it more reliably than otherwise.

8. There are several breeders of Hampshire swine in Canada. The leading ones are, Hastings Bros., Crosshill, Ont.; J. H. Patrick, Ilderton, Ont., and A. O'Neil & Son, Birr, Ont.

9. A fair price for corn fodder for which the ears have been removed would be $2 per ton. It would depend a good deal on the state of the ripeness of the crop.

10. The bean crop of Canada is reported by the census office to be double the acreage of last year. From private information, however, we learn that the acreage was considerably larger than that, as one feed house here reports that ten times as many seed beans were sold this season as last. However, the yield this year will not be so enormous on account of the early frost of September 9th, which killed fully one-third of the crop. In the United States the acreage in 1916 was 45,000, which yielded 8,840,000 bushels of beans. As for the crop acreage of beans in the United States this year the figures are not completed yet, but it looks as if the crop

Continued on page 76.

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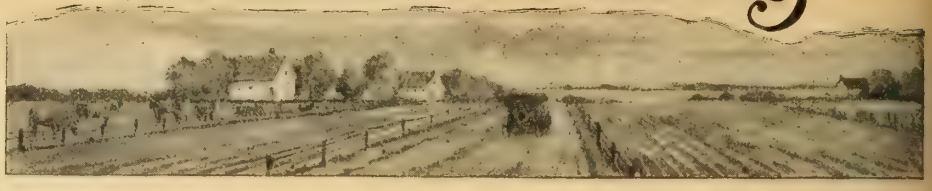
Business of Farming



Wintering Bees in Manitoba

The beekeepers of Manitoba lose at least one-sixth of their colonies every winter. This is the average, and it is not below the loss elsewhere.

Since weak colonies so frequently succumb in winter, it is obvious that a too rapid increase in the number of colonies in summer is unwise. Aside from the loss in the honey crop, too rapid increase often means too rapid decrease, because of danger of weak colonies dying during the winter. In Manitoba we will get our maximum profit by allowing the colonies to swarm only once in the early summer.

We must have colonies strong in young bees when going into their winter quarters, because in a strong colony many bees in the centre of the cluster may be engaged in heat generation, and there will still remain many to serve as insulators. Old bees that have been worn out gathering in the late summer soon succumb, thus leaving the hive in a weakened condition.

To have all hives well filled with young bees, in the autumn, it is important that we have the right kind of queen bee; one that will lay a large number of eggs and continue to deposit eggs until the cold weather sets in. The writer's experience has been that it is unwise to keep a queen bee longer than two years; in fact, in Manitoba they seldom, if given plenty of room to lay, live this long. It is well to have the hives protected in the fall from the cold north and west winds, as this protection helps to keep the colony in good condition for winter.

Much of our winter loss is due to inadequate stores. A colony of bees in Manitoba will eat about ten pounds of honey during the time they are confined by the cold. Leave the bees at least thirty pounds of honey, as with this amount they will have sufficient to do until they gather again in the spring. Be careful not to leave honey from year to year in the brood chamber, as this honey will granulate during the winter and cause loss. Our late fall gathered honey often candies quickly, and is, therefore, not the best for winter food.

If it is necessary to feed, a sufficiently thick sugar syrup can be made of two parts of sugar to one of water, by volume. To this add one ounce tartaric acid to each 50 pounds of sugar, adding it while the syrup is being heated. This syrup should be boiled 15 minutes. The acid helps to invert the sugar and thus retard its granulation in the combs.

The principal way of wintering bees in Manitoba is in cellars or basements. Do not place the bees in their winter quarters until you think they have had their last fly for the year. This is usually about the first week in November. Another, and perhaps better, plan is to have the hives well protected on their summer stands with straw, or some other material, and put them in the cellar when the cold weather commences. A satisfactory plan followed by many is to have their bees well protected outdoors, and then place them in the cellar or basement when the temperature can be controlled so that it will remain about 45 degrees F. Ideal cellar winter conditions are an even temperature around 45 degrees F., freedom from dampness, proper ventilation, total darkness and quietness.

Have the cellar or basement well built so that the inside will not be affected by the outside temperature. Many make the mistake of allowing their bee-cellars to become too cold. This causes a slight movement of the bees in the cluster to generate heat. Bees are expensive heat producers, as this muscular motion, if long continued, wears the bees out, causing early death, besides necessitating increased consumption of stores, which will often bring about dysentry. Many follow the practice of having a pipe from the furnace to the room where the bees are kept, and in this way are able to regulate the temperature. Others use an oil stove with good results.

In many of our cellars excessive dampness often causes considerable loss. To prevent dampness, have the proper temperature, sufficient ventilation, and, if necessary, use some hygroscopic substance such as lime. The best results are obtained when the hives are placed up from the floor at least one foot, the cellar having two ventilators, one going right down to the floor, the other in at the ground level.

Beginners often make the mistake of trying to examine the bees during the winter to ascertain, if possible, the condition of the colony. Have proper cellar conditions and do not disturb the bees until they are to be placed on their summer stands in the spring.

A number of our beekeepers in Manitoba winter their bees outdoor by packing them with oat chaff, sawdust, or dry leaves. From experiments conducted at the Agricultural College, we have found that for best results bees wintered in this way must be populous, and have at least eight inches of packing on the sides and 1½ feet above. It is impossible to give too much packing. The writer would not advise those who have good cellars or basements to try outside wintering.

Several beekeepers winter their bees in camps as outlined in some of our bee-books. From experiments conducted by the writer, this method of wintering is a success only where the soil is dry and sandy.

Many are able to bring their bees through the winter alive, but in very poor condition. Successful wintering means having the colonies populous in the early spring so that they will be able to gather an abundant harvest during the honey flow.

Take the bees from the cellar when the willow comes into bloom. Protect them from the cold north and west winds in the

spring, and if necessary feed to build them up for summer.

Much of our winter loss is due to carelessness on the part of the beekeeper. If bees are worth keeping they are worth the necessary attention. Care and attention will insure you a large honey yield in Manitoba nine years out of ten.—R. M. Muckle.

Lambton Over 50,000 Acres of Fall Wheat

The acreage of fall wheat in Lambton county this fall is going to be at least 75% of an increase. Standing in one field of wheat you can easily see the next field cornering at about a distance of 40 or 60 rods. Every available acre that can be got ready by the farmers for fall wheat before October 1st is being made ready. Fall wheat is through the ground in many places.—W. P. Macdonald.

Raising Root Seeds in Canada

In 1915 Canada imported a total of 1,927,313 pounds of turnip seed, and 1,056,060 pounds of mangel and beet seed. In 1916 the import of turnip seed dwindled to 150,855 pounds and the import of mangel and beet seed to 636,797 pounds; and for 1917 the figures stand at 291,379 for turnip seed and 891,677 pounds for mangel and beet seed. This means that Canada imported a total of these most important farm seeds, in the years of 1916 and 1917, which falls short of the import of 1915 alone of, roughly, one million pounds. It should be added that practically every pound of field root seed used in this country is of European origin.

In 1915 the Central Experimental Farm at Ottawa raised, from a field about 1½ acres a first-class mangel seed crop at the rate of about 1,150 pounds of seed to the acre. Mangel seed was produced at the Experimental Farm at Agassiz, B.C., at the rate of 2,100 pounds per acre, at the Experimental Station at Lennoxville, Que., at the rate of 1,150 pounds per acre and at the Experimental Station at Kentville, N.S., at the rate of 2,100 pounds per acre. The same year the Experimental Station at Lennoxville, Que., raised swede turnip seed at the rate of close to 1,250 pounds to the acre.

But what about the profit? Does it pay the grower to raise that kind of crop? As an answer, it may be stated that there was, according to records kept, a net profit of about $80 per acre from the mangel seed crop at the Central Experimental Farm, Ottawa, in 1915. And this in spite of the fact that the men handling the crop were quite unfamiliar with the same.

When the Gods Judge

Continued from page 53.

When he has silver to buy opium he is fuller of tales than the sahib's paper," Abdul answered.

"As might be; but neither a Sikh nor a Mussulman gives his own silver to our gods," the Yogi said complacently. "And Tez Singh gave to me three rupees that Soona Beebe's father had sent for a sacrifice to Kala Beg."

"And it is in thy purse, Yogi, and the stone idol will get one anna of sweetmeats," and Abdul laughed.

"I have made sacrifice of a goat, Abdul, and sprinkled the blood on the shrine." And Kedar sighed as rebuke to the Mussulman's insinuations.

"That is true," Baloo affirmed, " for we have all eaten kabobs of the goat flesh, out of the holy one's charity."

"There is but one god, Allah," Abdul declared fanatically; "and if yonder potbellied idol of stone that you call Kala Beg has power let him show it to-night over a man of the true faith, I, Abdul."

The Mussulman's words produced consternation.

"A difference of faith cannot save the guilty from the anger of the gods," the Yogi declared solemnly; "one must needs have great sanctity to defy the gods."

Just then my two syces joined the group, and Dewan, the little devil, must have winded them, for he gave a whinny.

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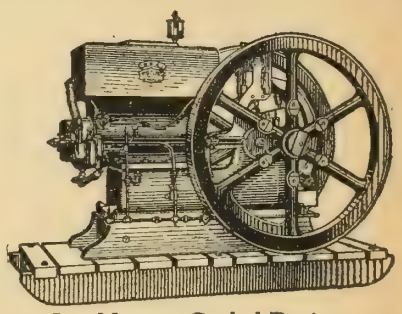

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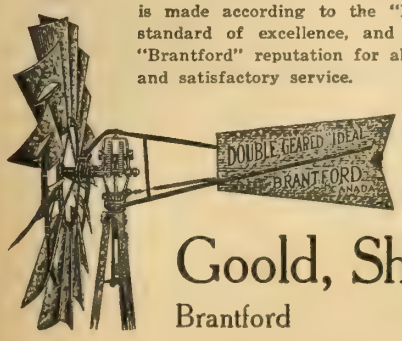

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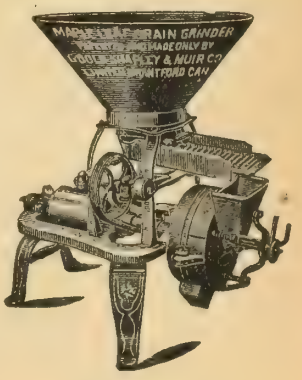

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I bolted, getting nicely out of the screened lane before the syce rounded the corner.

The khedda sahib was prowling in the verandah when I reached the bungalow. "We'll have a good-night peg, old man," he said. So we took the big chairs for this matter of routine.

The Major seemed groping a little at this point of his story, struggling as it were to carry his listeners forward in the same state of mind he had experienced at that time. He resumed.

The moon was up, and peeping over the top of the bungalow, it silhouetted against the deep shadow of a tamarind the huge bulk of an elephant that was chained by a hind leg to the tree. The giant was weaving his massive head back-and-forth, back-and-forth in a ceaseless way; and on a limb of the tamarind had perched the most annoying bird in all creation, the koel. There he sat calling "cluck-cluck-cluck, koe-e-l!" And once, as if he had put the elephant on edge, the latter swung up his trunk and trumpeted. And from the depths of a *sal* jungle on the hills that rose behind the bungalow came the harsh, grating call of a leopard.

At this Finnerty growled: "Is it any wonder that the natives have gods in this land of mysterious voices. Faith! Sometimes I'm tempted to believe this reincarnation idea is really true." He raised his long, powerful arm to point at the elephant. "That's my pad elephant," he added, "and if he isn't human he's next thing to it."

"Who was Murray?" I asked.

"He was my assistant here. But he pegged himself to death, poor chap. Why?"

"I've got his former bearer, Abdul, it seems."

"Well, I think you've got a proper *budmash*," Finnerty declared emphatically. "Did you see anything of a little Kashmiri girl called Soona Beebe hanging around with Abdul? She disappeared about the time Murray died, and Abdul went away about that time too. Boodha tells me that she didn't go back to Kashmir; her father has been writing asking about her."

"No, I saw nothing of the girl," I replied.

"She had money, and I wouldn't put it past that *budmash*, Abdul, to have made away with her. You know what a Bengali Mussulman is like when he smells rupees."

Then I told the Major all I had overheard down at the stables.

"There was something uncanny about poor Murray's death," the Khedda Sahib said. "The Civil Surgeon here said it was whisky liver, but I always thought it was something else. I am sure Murray had quite a sum of money in his box, and we never found it. I think he was friendly with Soona Beebe; but she didn't steal his rupees or have anything to do with his death. She was a gentle, sweet little thing something like her name—the Gold Girl."

"You think, then, that Abdul is at the bottom of it?" I asked.

"We searched his box," Finnerty answered, "but we couldn't prove anything. And what I wonder at is, that he came back here."

"He didn't know I was coming here," I replied. "As it happened I didn't say anything to him about where we were going. Anyway, he'll be little use to me, for something groaned in the chimney, and he's in a blue funk."

Finnerty laughed. "The servants all think that room is haunted. They declare they can hear a girl crying in it at night."

"By Jove! I heard a ghoulish noise myself," I declared.

"I've heard it," Finnerty agreed. "There's a hole through to the outside just in the back corner of the fireplace, and I think the wind moans and sighs through that when it's from the north."

We had finished our peg, and with a good-night to my host I went to my room.

The Major turned to the other members of the club with a little digression from his story.

"Gentlemen, try to put yourself in my boots, because you'll have to judge of what follows on its bare telling. You see everything so far was inclined to put me in a mystical mood; Finnerty's story of Murray and Soona Beebe, the native talk of ghosts, and the groaning chimney.

"As I stood in my room looking from the window down the lane between the trees, half-a-dozen jackals slunk by, one, possessed of some fiendish impulse, squatting on his haunches just beyond the bathroom door to let out a series of ghoulish calls."

My light was an old lamp, and I was shortly undressed and had it snuffed out. It was the cool weather, so doors and windows all open, I didn't need a punkah, and was soon asleep.

I had slept probably three hours when I was wakened by light; that was the sensation. When I opened my eyes the light was there, a flickering, like the flame of a torch. I want you to bear in mind, gentlemen, absolutely, that what I saw was not a dream-vision; I was awake — that's about the only thing I'll vouch for, that I was awake.

Very distinctly I saw Yogi Kedar standing just within the door of the room, his outstretched hand pointing to the chimney. I rolled my head a little and saw a native bending down in the fireplace.

As I slipped from the bed the native turned, and the light fell on his face—it was Abdul. I sprang for him, but my tin box was in the way, and I came a cropper, the box making an outlandish clatter on the hard cement. My plunge threw me absolutely into the door of the bathroom.

As I scrambled to my feet I could hear Finnerty's voice as he came plunging through the sitting-room that was just beyond a little passage that led from the room I was in. Strategically I stood where I was, guarding the back door, knowing that the Khedda Sahib would meet anybody escaping in the other direction. I though we had Abdul in a sack; but when Finnerty rushed in, a lamp in his hand, a glance showed that the room was empty.

"What's the row, Major—thieves?" he asked.

"Did you see Abdul or the old Hindoo?" I queried in answer.

"Not a soul."

The *chowkidar* (watchman) now arrived on the scene. He declared that nobody had either entered or gone out through the front of the bungalow, for he had been lying wide awake on his *charpoy* on the verandah. You see it was the *chowkidar's* duty to sleep there as a guard against thieves.

Briefly I told Finnerty what I had seen. His only comment was: "We'll find out if they've been here in the flesh."

He sent the *chowkidar* down to the servants' quarters, telling him to slip in quietly and find out whether Abdul or Khedar were there, and if they had been out at all; also to bring these two to the verandah.

Just then the bally old chimney commenced to moan; a gust of wind blew out the lamp, and neither Finnerty nor I lost any time in getting out.

The *chowkidar* soon came with Abdul, saying: "I will get Kedar Yogi down at the temple of the Black God."

While he was away we questioned Abdul, but he called Allah to witness that he, being sick, had not moved from his bed since he had left me in the evening. We knew it was useless to question, so we waited for the Yogi.

Soon we heard the clink, clink, clink, of the loose iron ring on the *chowkidar's lathi* (night stick), sending out its warning to snakes to clear the way, as he pounded along on the hard road coming back. "This, huzoor," he said, salaaming, "is Kedar Yogi."

The Yogi, creeping up the steps, knelt, and touching his forehead to the floor, said: "Salaam, Bahadar Sahib; what seeks your honor of Kedah?"

Finnerty, in fluent Hindustani, told the old fakir that he wanted all this humbug cleared up; asked him why he had been in my room; why Abdul had been there; told him, in fact, what I had seen.

"If the sahib has seen it, it is true," Kedar answered.

"And what else?" Finnerty asked, as the old chap stopped speaking.

"If Abdul was there *apsi* (of his own will), or because of the gods, is all one, for only the guilty are troubled."

"Were you there?" Finnerty queried, sharply.

'If the sahib has seen Kedar, Kedar was there; but of the gods for I remained in the Temple meditating on my mission."

"What?" Finnerty snapped.

"Huzoor, Kedar searches for Soona Beebe that her father may know what is."

"Has Abdul taken her?" Finnerty asked.

"I know nothing of Soona," Abdul interjected. "This infidel is crazed by his gods."

"Huzoor," the Hindoo continued calmly, "if the Presence will place Abdul in the room, in the morning he will speak the truth."

By Jove! I felt creepy at this cold-blooded proposition; and Finnerty exclaimed, "Damme!" Then he added to me, "Not a bad idea. You can take Kennedy's room, Major. He won't be back till to-morrow."

"I am a Mussulman," Abdul objected. "I have nothing to do with the mad gods of this idolater."

"Mussulmans, or even the twice-born, the sahibs, come under the wrath of the gods if guilty; the innocent are not afraid," Kedar declared solemnly.

"By heavens! I'm going to do it," Finnerty asserted. "We can't clear up the matter to-night anyway."

So we took Abdul to the room, locked the back door, and put a padlock on the heavy wooden shutters of the window. Two things I noticed this time; one that the mosquito netting in the open window was intact, so Abdul could not have escaped that way before; the other, that the moon shone in the room through the open window. I had not noticed it before; so those of you who wish to maintain that it was the moon, and not a mystic light, are free to do so.

I saw Abdul take something from the

roll of his loin cloth, and flip it into his mouth.

"Appin," Kedar said to me, "but opium will not hide the guilty from the gods. In the morning we will have the truth."

We locked also the door leading from the room into the long passage, and the *chowkidar*, closing the door from the passage to the living room, drew his *charpoy* across it. Then Finnerty and I turned in for the little time that remained for sleep.

Back in bed I could not sleep for a time; small wonder, with all the mysticism. I didn't feel at all satisfied over bottling Abdul up in that accursed room. I could have sworn I heard him call twice.

The Major filled his pipe slowly, as though he meditated over the *denouement*, or had a reluctance to finish. When it was lighted he took a dozen strong puffs while his listeners hung in suspense. He laid his pipe down on the table.

Gentlemen, when we opened the door in the morning we found Abdul stone dead in the corner farthest removed from the fireplace. There was no visible wound.

"Opium!" I said, telling Finnerty what I had seen.

"Guilty fear killed him!" Finnerty declared.

"The gods have put their hands on the guilty one!" the Yogi asserted.

"We'll never get the truth of it now, though," and Finnerty pointed at the dead man's lips.

"Huzoor, the truth is here," Kedar said from in front of the fireplace.

Following the line of his skinny finger I saw in the ashes Abdul's knife, beside a hollow he had dug in the night. In the hollow, like eggs in a nest, was a pile of shining rupees, a necklace of silver coins, and a gold bangle. Just beyond, swinging from the hole in the bricks, was the raised head of a cobra, its hood spread in anger.

"Yes," declared the Major, after a deep breath, "we found where the cobra had struck Abdul on the wrist. The rupees had been Murray's, of course, and the ornaments Soona Beebe's."

COST ACCOUNTING JUSTIFIES FARM PRICES

Continued from page 5.

upon the farmer all the odium of high prices. They can call the bluff in a convincing way.

The tractor has taught us further need for this bookkeeping. We have investigated them to learn the costs of plowing as compared with horsepower. Many of us learned for the first time that horses cost us anything at all. Investments of $1,000 in a machine show us our losses in 7 per cents. So that the age of bookkeeping must grow apace. The hit and miss system may be all right in an engine, but it is all wrong in a financial statement. Either we are making money yearly or else we are growing gray at the same old job of hugging our three per cents. on investments and working for nothing!

We must have some simple way of getting out our cost systems. During the coming months this is a subject that is going to be treated with some considerable interest by the FARMER'S MAGAZINE. Cost accounting on the farm as practised by some farmers making money, will be told in a way that will interest every reader.

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AUTOS - TRUCKS - TRACTORS

The Cut-Out a Nuisance

One of the most sensible things, says the *Scientific American*, that has occurred in the automobile world for many a day is the decision of the National Automobile Chamber of Commerce to abandon the practice of fitting cars with muffler cut-outs; and it now remains to be seen if the manufacturers generally will live up to this decision. The cut-out has been an unmitigated nuisance for years, but just because it constituted a "talking point" it has been retained, to the disgust of the saner portion of the community. It has been demonstrated that a properly designed muffler absorbs but an insignificant fraction of the power developed—much less than is required to haul around the flashy, but unnecessary "accessories" seen on many cars, so there is no good reason for retaining the cut-out on that ground; and it is certainly superfluous in any thickly settled community. No one is more ready to say harsh things about a noisy motorcyclist than the automobile owner, and yet the great majority of automobile drivers are guilty of the very same offense, and with far less excuse.

Why Implements Go Up

The following U.S. prices are taken from the *Iron Age* market reports of steel bars and pig iron in Sept., 1914, and Sept., 1917. The U.S. Government has fixed some of these prices to the manufacturers of their raw material. Farmers' prices are fixed for their finished products. These prices are f.o.b. the mills or furnaces, with the exception of steam coal, which was f.o.b. Beatrice.

	Sept., 1914.	Sept., 1917.
Pig iron No. 2, Birmingham	$11.00 per T.	$45.00 to $47 per T.
Bar steel	1.10 per cwt.	4.00 per cwt.
C. R. shafting	66% off list $1.97	10% off list $4.95
Galvanized sheets	2.75, Pittsburgh	9.50, Pittsburgh
Pipe, black, per ton	37.00, Pittsburgh	94.50, Pittsburgh
Bolts—Machine	85%	40-10-5%
Bolts—Carriage	80-20%	40-7½%
White lead	6.87½ per cwt.	11.87½ per cwt.
Boiled linseed oil	.52 per gal.	1.19 per gal.
Naptha	.08 per gal.	.17 per gal.
Turpentine	.50 per gal.	.57 per gal.
Lumber—Y. P. dimension	20.00 per M.	30.00 per M.
Lumber—Cypress	39.00 per M.	54.00 per M.
Leather—(pump valve)	.56 per lb.	1.00 per lb.
Solder	.22 per lb.	.36 per lb.
Babbitt No. 1	.07 per lb.	.14 per lb.
Brass tubing	.15 per lb.	.39 per lb.
Tool steel	.55 per lb.	2.50 per lb.
Steam coal	2.90 per ton	4.45 per ton
Crucibles	.04¾ per No.	.17 per No.
Freight advance 15%.		

Government price: Steel bars, $2.90 per cwt. Pig iron, $33 per ton.

In the case of bar steel and pig iron, which are the two largest items consumed in the manufacture of implements, the pig iron price fixed by the Government is three times as high as it was in 1914, and the price fixed on steel is 163 per cent. higher than the price of 1914.

Pure Air for the Carbureter

Although it has been well known for years that a considerable proportion of the deposits that form in the cylinder head is composed of grit and road dust, which is highly injurious to the entire interior mechanism of the engine, remarkably few efforts have been made to overcome the difficulty, and to conserve the motor by cleaning the air before it is admitted to the carbureter. This is an important point that should receive more careful attention.

Is Your Car Easy to Repair?

An important point for prospective buyers to look out for when selecting an automobile is the accessibility of its various parts for adjustment and repair. When it is necessary to remove the entire body to enable a single loose bolt to be tightened, or the engine to make a simple adjustment, the repair bill on what should be but a five-minute job is decidedly discouraging, not to speak of the loss of time. These examples may be rather extreme, but the fact remains that accessibility is often made a secondary consideration by designers. That this should be so is difficult to understand, for good will is an important asset in these days of keen competition, and no amount of fancy accessories and free extras can off-set heavy repair bills.

Used Tractor to Plant Trees

One of the most unusual uses to which a tractor has yet been put is reported from Fresno County, California, where J. C. Forkner owns 7,000 acres of land. Mr. Forkner some months ago decided to plant the land to 100,000 Smyrna fig trees. A tractor was used in drilling the holes, a special attachment being rigged up which was operated by the pulley. Dynamite was then used to complete the job. Since the trees have been planted the tractor has been used consistently in cultivating the ground. The tractor enables Mr. Forkner to double-disc his ground at a cost of 35 cents an acre. Using horses, he says, would cost 75 cents an acre.

THE TRACTOR ATTACHMENT

A Ford car with a tractor attachment is not a tractor, never has been, never will be, says Howard E. Everett in the *Implement and Tractor Journal*. Attachment manufacturers do not claim it to be a tractor. It is, however, a form of

farm power which fits in nicely with the power needs of thousands of farmers.

The agricultural demand of the day is for more power on the farms. The war cry of the nation is for greater production. Greater production is impossible with present power equipment. There is more work to be done on American farms than can possibly be done with the twenty-six million horses and mules and thirty-five thousand farm tractors. The demand for more power is evident from the fact that tractor manufacturers are sold far into the future.

Into this nightmare of power demand came the tractor attachment last winter. It did not come as a competitor of the tractor, but merely as a supplemental form of farm power. Its arrival was widely heralded in the public press, and a few enthusiastic manufacturers almost gave it a black eye by overstating its case. Impossible claims on the part of a few gave the infant industry considerable antagonism, which, however, is fast being removed by more conservative publicity.

When considered in its true light, the tractor attachment can stand on its own support. It is not intended to replace tractors, but to fill a demand for power which will exist until tractor manufacturing schedules place production on a parity with demand. It makes its appeal to thousands of small farmers, who recognize a demand for more power, but who are as yet unable to see their way clear to buy a real tractor. A tractor attachment furnishes a small power plant which can be utilized in many ways on a small farm.

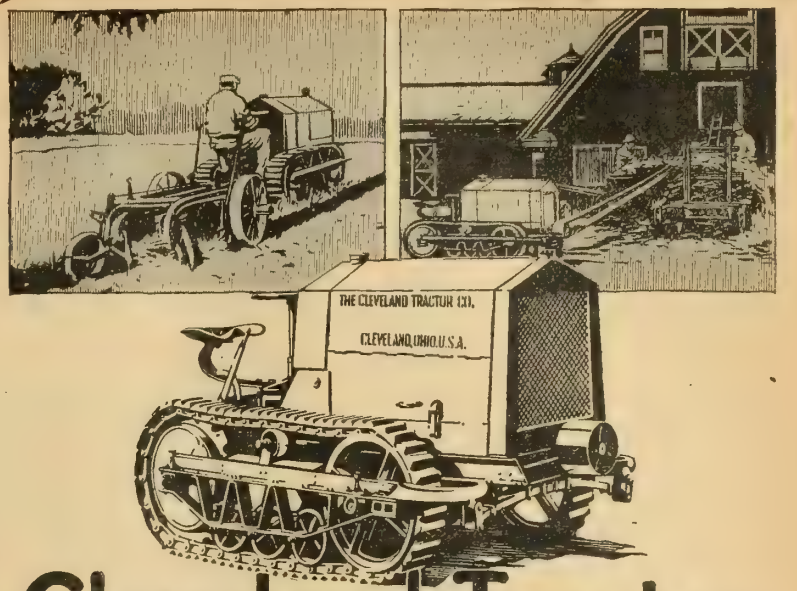
The power afforded by an attachment naturally is not so great as that furnished by a real tractor. An attachment, however, can conservatively be said to be able to do the work of three horses. In other words it will pull any implement for which the farmer is accustomed to use three horses. Sometimes it will do the work of four horses, but regular four-horse work is not recommended by many manufacturers. The amount of power an attachment outfit furnishes is, of course, dependent upon the power plant of the car. Old Fords are used in the majority of instances, so that three-horse work is about all that should be recommended under all conditions.

This means that a tractor attachment can pull a 16-inch plow. In certain seasons of the year when the ground is soft, or at other times where the soil works comparatively easy, two 14-inch plow bottoms can be pulled. The attachment has received sufficient recognition from a number of plow manufacturers to cause them to build special 16-inch single bottom powerlift plows. The work which an attachment will do with other tractor-drawn implements is in the same proportion.

Mechanically the various makes of attachments are all based on the same principle. There is naturally some variation in the development and application of the principle. The main feature of construction is a supplemental axle upon which are mounted the traction wheels, secured to the car frame in such a way that the rear axle of the car furnishes the power for driving the traction wheels. This usually is in the form of a roller or bevel pinion fastened to the car axle.

The principal virtue of an attachment is its low cost. The attachments now on the market range in price from a hundred to three hundred dollars. In other words,

Continued on page 74.



Cleveland Tractor

Geared to the Ground

Now—More Than Ever—You Need Fast Work—Highest Efficiency

Horses are scarce—labor scarcer.

Yet you are expected to produce a bigger yield than ever.

Only faster work and higher efficiency will do it.

You need the Cleveland Tractor. Up-to-date farmers in all sections of the country are finding it just the fast-working, economical implement they must have.

The Cleveland plows—and plows beautifully—at 3½ to 4 miles an hour. *Think of it.* Such speed used to be considered out of the question.

It actually means doing the work of three good 3-horse teams and 3 men in the same time—*and at a greater saving in actual money.*

Eight to ten acres a day! And every foot plowed better than you can do it with horses and men!

Hauling only two plows the Cleveland is not only easier to handle than the heavier three-plow machines, but works much quicker and covers more ground.

This same speed so useful in plowing can also be applied to harrowing, harvesting, hauling the manure spreader or any of the many hauling jobs you have. The Cleveland gives you 12 horsepower at the drawbar—plenty for all your work.

Because it travels on its own tracks the Cleveland can go anywhere—up or down hill, across ditches, through loose sand, gravel or thick mud.

The Cleveland is the first general purpose tractor. It is the invention of Rollin H. White, the famous motor truck engineer. Every part is selected for strength and long wear. Gears are identical with those found in the finest trucks. All are protected by dustproof cases.

The Cleveland gives you 20 horsepower at the pulley belt—ample power for cutting ensilage, sawing, pumping, running the binder head, or any stationary engine farm work.

It is small (only 52 inches high) and light (weight 2750 pounds). So you can get unusual economy.

And here's another very important advantage. *The Cleveland steers by the power of its engine.* Just a light touch on the wheel and it goes in the desired direction. It will turn in less than a 12-foot circle.

We are flooded with orders for the Cleveland Tractor and cannot promise immediate deliveries. We advise ordering now for delivery in the spring.

Write now for complete information and price. Address Dept. CL, or use the coupon.

CLEVELAND TRACTOR COMPANY
Cleveland, Ohio

Cleveland Tractor Co.
Dept. CL,
Cleveland, Ohio
Please send me full information about the Cleveland Tractor.
Name_____
City_____
County_____ Province_____

Meat Shortage Critical

Quick Action Needed

"Since the War the live stock herds in Europe have decreased by 115,000,000 head. No one can say to what extent the breach of the Italian front was made possible by food shortage. France requires increased supplies unless the women and children are to suffer from hunger. The Allies look to Canada and the United States to save the situation which to-day is grave. We must and will save it. The demand for meat and the fact of depletion of European herds is a guarantee of high prices. Steps have been taken to assure fair treatment to the producers."

W. J. HANNA,
Food Controller of Canada.

Mr. Hanna is working in co-operation with the Food Controllers of Great Britain and the United States. He, more than any other man in Canada, knows the needs of the Allies. His statement shows the seriousness of the meat situation. The question is: How can the shortage best be met?

The speediest way to relieve the critical situation is to greatly increase the production of hogs.

Swine, on account of being prolific and growing to marketable size rapidly, will produce meat more quickly than any other kind of livestock, because 1,500 pounds of dressed meat is a moderate estimate of what can be produced from one sow in one year. As it is a huge quantity of meat that is needed, and needed speedily, the Allies look to the hog raisers of Canada and the United States to meet the situation.

The Dominion Department of Agriculture and the Agricultural Departments of the Provincial Governments are co-operating to secure the interest and action of the Canadian hog raisers. The Food Controller states that **steps have been taken to assure fair treatment to the producers.** This will be explained in a further advertisement. The point the Government want to impress to-day is to

Save the Young Sows

Great Britain has almost doubled her imports of bacon and hams since the war, importing over one billion pounds since last year. There has been no increase in the production of Canadian hogs to meet this situation. The killings in Denmark have decreased 40%. The receipts of hogs at Stock Yards in the United States for the eight months ending August 31st, 1917, show a decrease of 2,765,006 compared with the same period in 1916, while the month of September, 1917 (the latest month for which figures are available) shows the great decrease of 859,830 compared with September of 1916. These figures emphasize the pressing need for a great increase in the production of hogs and indicate a safe and profitable market.

The enormous consumption of the Allied Armies is sufficient to steady and maintain the bacon market at a high level. The British Army ration calls for one-quarter of a pound of bacon per man per day. Multiply this by millions of fighters and some idea is given of the need for increased production.

The fighters, and the women and children of Britain, France and Italy urgently need more meat. Canada can help supply it. Save the young sows.

Dominion of Canada Department of Agriculture

LIVE STOCK BRANCH

OTTAWA

Help Win The War!

LOANING money to the Government is one way—money to help finance the Allies. It is *patriotism* to loan money—patriotism and duty.

If you have no money, yet have some time and talent, you can turn this time and talent into money for the use of the Government.

We'll Buy A War Certificate For You

These War Certificates represent the people's money loaned to the Government. They are issued in denominations of $10, $25, $50, $100, and upwards. They can be bought as follows:

	Present Purchase Price
$ 10 War Certificate, to mature in 3 years	$ 8.60
25 " " " " " 3 "	21.50
50 " " " " " 3 "	43.00
100 " " " " " 3 "	86.00

IF you will use some of your time and talent, in a way we shall indicate to you in special correspondence, we'll present you with a War Certificate, of a denomination to be decided by yourself. That is, we'll pay the Government the present purchase price of a War Certificate, present it to you, and at the end of three years you will collect from the Government $10, $25, $50 or $100, as the case may be, *and the money will be yours!*

Our plan makes it possible for every man and woman, every youth and maiden, to prove his or her patriotism. By our plan **you can lend money without money.** The service we shall ask of you is honorable, and it is of benefit to the whole of Canada. It is, moreover, service of very considerable benefit to yourself. But above these things is the thought that

You Can Prove Your Patriotism

ARE you willing to do something, to use what you possess—time and talent—to help win the War? If you say "Yes," then forward to us the coupon below, filled in, and we shall tell you what you can do now, to help the Government, and at the same time become the possessor of a War Certificate which, at the end of three years, you turn into cash for your own keeping.

Date.....1917

The MacLean Publishing Co., Ltd.,
143 University Ave.,
Toronto.

Please send me particulars of your proposal to enable me to own a War Certificate, in exchange for the use of some of my time.

Signed .....
(Fill in Mr., Mrs. or Miss)

Address .....

.....

Sign NOW If You Have Said "YES"

Genuine Diamonds
CASH OR CREDIT
Terms $1-$2-$3 Weekly
We trust any honest person
Write for catalogue to-day
Jacobs Bros. Diamond Importers
Dept. B, 15 Toronto Arcade
Toronto, Ontario

THE KEYSTONE DEHORNER. The Department of Agriculture has found by actual experience that dehorning cows adds to their milking value. The **KEYSTONE DEHORNER** is mentioned in the 1913 report (page 131) as a most effective instrument for the purpose. Write for booklet.
R. H. McKENNA, 219 Robert St., Toronto.

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You can learn in your spare moments at home the principles, construction, care, operation of all types and classes of engines. Our Engineering Courses are complete, thorough and practical. We teach by mail Stationary, Steam Traction, Gasoline, and Automobile Courses. Ask about what interests you.

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A Book for Modern Farmers

Costs only $2.00. Will give the farmer knowledge that will save him dollars and time.

The Modern Gas Tractor

Its construction, utility, operation and repair. This book is a practical treatise covering every branch of up-to-date gas tractor engineering.

By VICTOR W. PAGE
M.S.A.E.

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THE FARMER'S MAGAZINE
143 University Avenue
TORONTO

Old Dan's Vision

Continued from page 31.

wind-mill. He was grieved at the apathy of the "Lawdge," and feared, with debates on "country-and-city-life," and recitations about Cæsar, and other ancient gentlemen, that "Advance Association" might side-step the more weighty matter of "salt." Dan was a picturesque man, shaped after the pattern of "Abe Martin." He was nearly seven feet tall, and nearly seven inches broad, so that the dignity was all that was Roman about him. Dan's heroism was all in his soul—there was none in his physique. He resembled a rainbow, with large feet, minus the color. He assaulted the octopus, at least once, at each meeting, wagging his whiskers, eloquently, for half-an-hour. "Lawdge" would listen—rapt. He was a fair entertainer, and could hold forth on many subjects, especially Roman history. He could tell a good story, but he never indulged these things until he had sparred with the octopus. "Lawdge"—to Dan—was no trifling matter. Had not the octopus eaten up his children's pancakes?

"Farmers wunt hang together — nohow," said Dan. Nothing will, without the right brand of cement. Fancy—if you can—the U.S. Steel Co., the Dominion Canners, or any other of the "great hangers" holding together, with a mere password, a constitution and by-laws, and a meeting in a school-house every two weeks. Shaw, Dan, the cement was rotten, there was nothing wrong with the farmers. A blood-curdling oath — forsooth; the octopus don't even believe in God. The bond that binds the U.S. Steel is gold-riveted. Its vows are made in the presence of Mammon. The majesty of the "law" stands backing it. With such a bond, dear Dan, the farmers couldn't tear themselves loose. It was the octopus that put that "farmer's instability" stuff into your poor pessimistic head. Avaunt, with the wild, lying axiom. Put the ideally, cohesive trusts under the conditions that prevailed among the farmers in 1895, and they will quarrel over night.

Morgan found "steel" a weltering chaos, full of wars and war-rumors, and he bound it into a republic of peace, by the invention of "the merger." But I'm going to tell you about that in a future article, and I mention it here because I am talking of "cement" for binding uncohesive units, and the "merger" is simply the last word on the subject of cohesion. It is too much to ask that the farmers take to "merging" at this early hour, but it is not impossible, friend Daniel, not at all impossible. The invention needs a slight improvement—that's all.

Brotherhood is the secret of strength. To charter a "Paitron" store, to be operated at a profit of 12½%, was easy. A cash business could do nicely, on that profit, in 1895, but the brother in straits needed credit. There was the weak spot. England would soon be driven out of France, if she refused to support her weaker battalions. To send them, on their knees, to the enemy, as did the poor attempt at brotherhood, in the nineties, would make a sorry mess of a much bigger and closer brotherhood than the Patrons of Industry.

The "Paitron" movement did little besides putting the interests on their guard. They saw that people who learned to shoot with pea-shooters might, some day, use heavy artillery. At the present writing, a "Paitron-store" would last about fifteen minutes. To-day is the day of big aggregations. That which survives must be organized—tight. Capacity for organization is the twentieth century test of fitness. The bond that binds is the prime need of the hour.

Selling Every Peach Right

Continued from page 9.

operator feeds in the peaches at the one end on to the belt, which carries them along until they reach the opening large enough for them to pass through, when they are rolled to the proper division. Operators pick them out and place them in the baskets accurately sorted and ready for final attention before shipment.

The backets here when properly graded and sorted are covered with red lena, which add considerable to the appearance of the fruit. The day's work accumulates until four to five o'clock, supplying, as a rule, the necessary quantity for at least one car, and with a more rapidly ripening crop, two to three cars every day. This means close to 1,000 baskets for each car. To handle this quantity each day of the shipping season means a business well in hand at every angle. A market ready, waiting, an early start to insure certain holding of customer to contract and even daily shipments, to move all the fruit before it gets belond the best stage for shipping, are all necessary to complete *the process of selling every peach right.* With varieties maturing in regular sequence, the daily work will not very more than the weather, and steady, regular work, properly directed brings the shipping to a conclusion where all has been realized that conditions could assure.

The big double team comes into play here in taking the fruit to a near-by siding for loading. With racks arranged to carry three tiers of baskets, a good quantity can be handled in each load and the day's work quickly placed in the cars for shipment. Arranged three tiers high, one on top of the other the baskets seem to carry in a very satisfactory way in box cars and reach their destinations sound and in the best shape for re-sale.

THE TRACTOR ATTACHMENT

Continued from page 71.

an attachment can be had for about the price of one good draft horse. The Ford car, which furnishes the power plant, is ubiquitous. Its long life is proverbial. The motor is one of its strongest features. The motor is useful long after the body and upholstery are too badly worn to make it serviceable as a passenger car. Thousands of these are available, and with Ford cars being produced at a rate of a million a year, there is no doubt as to the availability of power plants for tractor attachments.

CATALOGUES, BOOKLETS, BULLETINS AND CALENDARS

Frederic J. Drake & Co., publishers, have sent a copy of The Ford Motor Co.'s recent truck and tractor attachments book. It sells for $1.00 and gives full information on Ford car management.

The J. B. Ford Co., of Wyandotte, Michigan, issue a very attractive little bulletin in colors giving their assistance to those who are engaged in the handling and care of milk and dairy products.

The American Washing Machine Manufacturers' Association, 10 South La Salle St., Chicago, Ill., issue a small pamphlet on Who Washes Your Clothes? It is a story for farm homes. Write for it.

The Kirstin Stump Pullers are fully explained in a booklet in colors issued by this firm and which can be had on request. They claim to have the easiest and cheapest way to clear farms. Write A. J. Kirstin Co., Sault Ste. Marie, Canada.

Seeing Armour's is the way the whole story is told of the big Armour packing plants at Chicago. A better insight in the ways of big meat business will be gained by getting this booklet. Write Armour & Company, Chicago, Ill.

The Williams Piano Co., of Oshawa, issue an art catalogue that will be appreciated by all lovers of music in the home. Besides full half-tone pictures of their pianos, it gives several photos of prominent musicians. Send for a copy. It's free.

John Hallam, Limited, 327 Hallam Bldg., Toronto, Ont., issue a Trappers' Guide that is full of information on raw furs, hides, etc. It is a booklet of 100 pages and full of useful information on all fur-bearing animals. It can be had on request free.

H. F. Bailey & Son, of Galt, Ont., have issued an attractive booklet well illustrated by pictures from the original farm where their milking machine, the Hinman, was invented. Full details about the working of the machine. Several letters from satisfied users of the Hinman Milker are appended. Write for a copy.

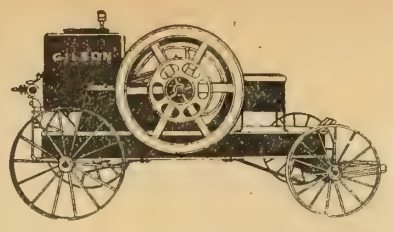
The Dominion Department of the Interior has just issued a Homestead Map, showing graphically the exact location of each quarter-section which is yet available for entry under the Government offer. It can be had free by writing to the Natural Resources Intelligence Branch, Department of the Interior, Ottawa, Can.

The Metal Shingle and Siding Co., of Preston, put out a little brochure under the title of Better Fittings for Farm Buildings, that gives a lot of useful information on how they can supply the needs of the farmer in steel windows, doors, sash, ventilators, hangers, hay forks, lightning preventions, feed bowls, troughs, etc. It can be had free upon request by writing the above firm.

The International Harvester Co., under the title of **The Cow Makes Farming More Profitable**, have a booklet that every farmer should have on his desk. It has compiled within its covers a fund of reliable data on feeding, breeding and milk production of dairy cattle with professional advice from experts. Send for a free copy to International Harvester Co., Agriculture Extension Dept., Harvester Bldg., Chicago.

"Unlike most industries, poultry-keeping, if it is to take its rightful place among our Dominion industries, must depend mainly upon the well-directed efforts of the small producer rather than upon the large operations of the poultry farms." Thus speaks the Director of the Dominion Experimental Farms in his introductory letter to a bulletin by the Dominion Poultry Husbandman, Mr. F. C. Elford, on "Poultry-Keeping in Town and Country." Anybody interested can get a copy free by addressing the Publications Branch, Dept. of Agriculture, Ottawa.

The Dominion Department of Agriculture has a new catalogue ready. There are 317 publications listed, of which 31 are devoted to the dairy, butter making, cheese making, cold storage, cow testing, etc.; 64 to the cultivation of field crops, grains, grasses, vegetables, flax and tobacco; 37 to insect and plant diseases; 51 to live stock and everything appertaining thereto; 19 to apples and fruits generally; 24 to gardening, fruit, flower and vegetable, home and school; 33 to poultry, raising, keeping, housing, feeding and marketing, candling, preservation, production and shipping eggs and 42 to miscellaneous subjects, seasonable hints, cold storage, bees, honey production, soil fertility, maple sugar production, manures and fertilizers, farm machinery, forestry, and the War Book of 1915 and 1916, The Agricultural Gazette, The Agricultural Instruction Act and so on. The catalogue will be sent without charge on application being made to the Publications Branch, Department of Agriculture, Ottawa.



This Engine Will Cost You Nothing

You need an engine—get a Gilson on our new easy payment plant, and it will pay for itself. You have the work for it to do this Fall and Winter, help is scarce and high-priced—save yourself a lot of worry and enjoy that "feeling of security" which is such a definite part of the staunch, reliable Gilson Engine.

Gilson Engines have long enjoyed an indisputable reputation for dependability, power, simplicity, and economy. This year finds us with an even more attractive proposition for the discriminating buyer. Prices of everything you have been buying have been soaring, but, by careful management, we are able to furnish Gilson Engines at remarkably low prices. Write to-day for catalogue, price, and easy payment plan, stating what size you are interested in.

GILSON MFG. CO., Limited, 2515 York St., Guelph, Ont.

FARMERS!

Plan Now for Next Season's Crops

Gather information about

The Best Varieties of Grains and Roots.
The Most Profitable Breeds of Cattle, Sheep, Swine and Poultry.
The Manufacture of Highest Quality Butter and Cheese.
Best Orchard Methods.
Production of Finest Honey.
Farm Tractors, Gasoline Engines and Motors.
Reclaiming Land by Underdrainage.
Business Management on the Farm.

FREE SHORT COURSES

at the

Ontario Agricultural College, Guelph

The College charges nothing for this instruction. It is absolutely free and the only expense you have to meet is board while in Guelph and railway fare at reduced rates.

The following courses are offered:—

Stock and Seed Judging (2 weeks), Jan. 8th to 19th.
Poultry Raising (4 weeks), Jan. 8th to Feb. 2nd.
Horticulture (6 weeks), Jan. 21st to March 2nd.
Factory Dairy Course (3 months), Jan. 2nd to March 22nd.
Farm Dairy Course (4 weeks) Jan. 21st to Feb. 16th.
Bee Keeping (3 weeks), Jan. 8th to Jan. 26th.
Drainage and Drainage Surveying (2 weeks), Jan. 8th to 19th.
Farm Power—including farm tractors, gasoline engines, etc. (2 weeks), Jan. 21st to Feb. 2nd.
Business and Marketing (2 weeks), Jan. 8th to 19th.

These short courses are for the special benefit of farmer and farmers' sons who find it impossible to attend college except for short periods in the winter.

An illustrated Short Course Calendar, giving in detail all short courses will be mailed on request.

G. C. CREELMAN, President.

Returns From Sheep Raising

What it Costs to Start a Flock—Best System for Beginners

By F. R. MARSHALL

THE gross annual returns from ewes of breeding age may be expected to range from $8 to $15 a head, depending upon the percentage of lambs raised, the weights of the fleeces, and the values for these products. The lamb and wool yield depend largely upon the breed selected. With ewes of any one of the medium-sized mutton breeds 115 per cent. of lambs can be raised, and 150 per cent. is not infrequently reached. Lambs are most in demand when fat at a weight of from 65 to 80 pounds. These weights and sufficient fatness can be obtained at from 4 to 5 months of age with very little grain feeding, and before the lambs eat much of the forage in pasturage, if the ewes' feed produces a continuous and plentiful supply of milk.

The wool returns vary from 7 to 11 pounds per ewe. The larger mutton breeds yield more, as do also the fine wools, but the value per pound of the latter is usually less on account of the greater proportion of natural grease or yolk present.

It is difficult to estimate satisfactorily the net returns from a flock of ewes. In comparison with cattle and swine, sheep can be made to yield practically the same net returns on the value of the land, if well cared for, and if kept on lands reasonably well adapted for sheep raising.

For farms of all-arable land the Illinois Experiment Station has recommended a plan of livestock production which includes 80 ewes (1 ewe to 2 acres) along with 22 breeding cows and 12 brood sows. Arable land of the best class when used exclusively for sheep can be made to support from 5 to 8 ewes (with their lambs until marketed) per acre. On pastures suitable for either cattle or sheep five ewes may be considered the equivalent of one cow or steer, and the winter feed required for one breeding cow not in milk would be equivalent to that needed for about eight ewes.

STARTING THE FLOCK

Late summer or early fall is the most favorable time to make a start in sheep raising. Ewes can be procured more readily at this time, and when purchased can be kept on meadows, grain stubble fields, or late-sown forage crops to get them in good condition for breeding. Experience with the ewes through fall and winter will also render a beginner more capable of attending to them at lambing time. It is seldom possible to buy any considerable number of bred ewes at reasonable prices.

The inexperienced sheep raiser should begin with grade ewes of the best class available and a pure-bred ram. The raising of pure-bred stock and the selling of breeding rams can best be undertaken by persons experienced in sheep raising. The selection of the type and breed of sheep should be made by considering the class of pasture and feeds available and the general system of farming to be followed, along with the peculiarities of the breeds and the conditions and kind of feeding and management for which each has been especially developed.

It is highly advantageous for all, or a majority, of the farms in a neighborhood to keep the same breed of sheep, or at least to continue the use of rams of the same breed. After a decision has been made as to a suitable breed, the aim should be to obtain ewes that are individually good and that have as many crosses as possible of the breed selected. With such a foundation and the continuous use of good pure-bred rams of the same breed, the flock will make continuous improvement. In looking for ewes of desired type and breeding it will often be found impossible to get them near at home at a reasonable price. Ewes from the western ranges can be obtained directly from a stockyard market. For the most part the range ewes are of Merino breeding. First-cross ewe lambs and less often older stock bred on the range and sired by rams of the down or long-wool breeds are sometimes obtainable. These, or even the Merino ewes, furnish a foundation for the flock that can be quickly graded up by using rams of the breed preferred. The lambs from Merino ewes and mutton rams grow well and sell well if cared for, but the yield is less than when ewes with some mutton blood are used. The sheep from the range are less often infested with internal parasite than are farm sheep, and in the large shipments there is opportunity for closer selection.

AGD OF EWES

Yearling or 2-year-old ewes are preferable to older stock. Ewes with "broken mouths"—that is, those that have lost some of their teeth as a result of age—can be purchased cheaper than younger ones, but are not good property for inexperienced sheep raisers.

Until a sheep is 4 years old its age can usually be told within a few months. The lambs have small, narrow teeth, known as milk teeth. At about 12 months of age the two centre incisors are replaced by two large, broad, permanent teeth. At about 24 months two more large teeth appear, one on each side of the other pair. Another pair appears at 3 years of age, and the last, or corner teeth, come in at about the end of the fourth year, and the sheep then has a full mouth. Heavy or light feeding has considerable effect upon the exact time of appearance. After a sheep becomes 4 years old the exact age can only be estimated. As age advances, the adult teeth become shorter and the distance between them increases. The normal number of teeth may be retained until 8 or 9 years of age, but more often some are lost after the fifth year.

In buying ewes, particularly those from the range, it is desirable when possible, to examine the udders to see that they are free from lumps that would prevent the ewes from being milkers. It is necessary to guard also against buying ewes that are useless as breeders because of the ends of the teats having been clipped off at shearing.

Persons wholly inexperienced with sheep will do well to limit the size of the flock at the start. A beginner can acquire experience quite rapidly with 8 or 10 ewes. It is very doubtful, however, whether anyone should make a start with sheep unless the arrangement of the farm and the plan of its operation allow the keeping of as many as 30 ewes, and in most cases 60 or more will be handled better and more economically than a very small flock. The number of ewe lambs that can be kept for breeding each year should be about one-half the number of breeding ewes. Old ewes should be discarded when 5 years old. When this is done and the poorest of the ewe lambs are sold a flock will ordinarily double in size in three years. After two seasons' experience it will be a good plan to buy more ewes when good ones can be obtained at a fair price.

The economical disadvantage of a very small flock lies in the fact that the hours of labor are practically the same for a dozen or 20 ewes as for the larger flock. The fencing to allow desirable change of pastures or to give protection against dogs is about the same in either case, so that the overhead charges per ewe are much smaller in the case of the larger flock. Furthermore, the small flock on a farm having larger numbers of other animals is unlikely to receive the study and attention really needed or that would be given to one of the chief sources of the farm income.

Our Rural Mail

Continued from page 65.

than last year, although the crop condition, as reported in the last month, is not quite equal to the crop of last year.

11. R. A. Craig's book on Common Diseases of Farm Animals, Lippincott series, will cover the case. We sell it for $1.75 postpaid.

Turnips

E.C.K., Ontario—Could you give me the names and addresses of some men in the wholesale vegetable business or anyone to whom I might sell a carload of turnips that are fit for table use?

Answer.—Mr. Blatchford, of the United Farmers Co., 2 Francis Street, Toronto, informs me that they handle only a few carloads of turnips. Recently they had inquiries for carloads at 18 cents per fifty pounds on Hamilton and Brantford lines. He says the potato buyers here in Toronto have done some business in this line. The Dundas district sell to Chicago houses largely. If you write to Mr. Thompson, ex-M.P., Lynden, Ontario, he will tell you full particulars about the trade there.

Can you not get in touch with more dealers near Brockville that can ship into

seaboard cities more directly, or with the produce dealers in the big centres?

Standing Timber for Sale

I.B.T., Ontario.—I have several large trees in my bush of white oak, chestnut, elm, hickory and ash. What prices ought I to get for it standing, and where can I sell it?

Answer. — I have consulted several people whom I know handle this sort of material and also men in the department at Ottawa and I have had no satisfactory reply as to prices. I am enclosing you two letters from two men who have handled and who sell timber to such as you speak of and you will note their replies. If you would write to some of the concerns, who manufacture implements, in Detroit, Windsor or possibly Toronto, you might be able to get more satisfactory replies and more definite answers to your questions. From your description of the timber it ought to be very valuable. I would not be in a hurry to get rid of it, though, for this timber will always be valuable.

Quits Big Salary to Farm

"So Jack's back on the farm with you! Anything wrong?" I asked of his father.

"Nothing wrong but a good deal that's all right," was the answer.

When Jack was eighteen years of age he had become tired of the farm. He had passed the matriculation examination, but the ordinary university course leading to any of the professions did not attract him. For a couple of years he and his father had managed the farm, but when he was eighteen he decided to attend a good business college. His father had insisted that he take a first-class course in the college, with the result that he had no difficulty in securing a fine position as bookkeeper in one of the biggest firms in one of the livest cities in Canada.

He paid strict attention to duties assigned and promotion came rapidly, as his interests were with his firm and he was eager to make and to save all the money he could. It was not long till he became the second man in the big office, drawing a splendid salary. His old chums were envious of him and not a few of his old associates spoke of him as being extremely fortunate. Hence their, and my, surprise to find him back on the farm with his father. Even greater was my surprise to find his father so well satisfied after his son had been with him for four years.

Jack's father had protested when the son proposed to return to him. "I don't see how you can make as much working with me as you can make working in the office," the father protested.

"The whole thing is not in what you make in a year," replied the son, "but in what one can make in a reasonably long life. That's what counts. In the four years I've been in the office I've seen a dozen girls play out, and the men don't look to be up to much either. Lots of them go out of business. The work looks easy but it gets you after a while. The only way to keep going there is to take trips and vacations that eat up all a fellow's profit. In spite of yourself you have to spend a good deal or you will be thought odd. Besides, it takes a whole lot of your time and money to keep up with the latest and best ways of doing things. If you don't keep up to date you lose your job.

"What helped me to make up my mind was what I saw last week. The old head bookkeeper got his walking ticket. He was only about sixty, but the firm said he had to go. I was called into the office and asked to take his place. I was to get just the salary that he was getting. I knew just the amount that he had laid by and I knew, too, that the old man had barely enough to live on, and he and his family had gone carefully, too. So when I was asked to take his job I looked ahead and I saw myself in his shoes thirty years from now and I didn't like it. So here I am, and I'd like to work the old farm with you."

In the four years of hard work that Jack had done for the big city firm, save as he would, he had succeeded in saving only five hundred dollars. Since going into partnership with his father he and his father have had five hundred dollars each as clear profit, annually, from the farm. Besides, he has had a man's life of it. He has had the privilege of making his own mistakes as well as the opportunity of fighting winning battles. When the week draws to a close he does not fear that along with his week's wages he will receive notice that his services are no longer required. He is at the beck and call of no one. He is impelled by the enterprise of a wideawake business man and inspired by the outlook of a citizen.—Alonzo Brown.

—Darling, in New York Tribune.

Non-union Labor Walking Delegate from U.S. War Department (to Col. Roosevelt): "Hold up here! You're not a member of the Life-Savers' Union."

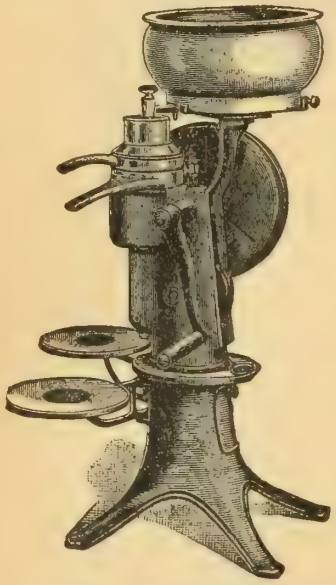
—Cesare, in New York Evening Post.

He Mourns Dear Enemy.

Compare the SANITARY KING with ALL other CREAM SEPARATORS

Then you will understand why so many farmers are using the

Sanitary King



Built of the very best material which insures long life. Stands Solid. Turns easy. Close skimmer. Splash oiling system. Solid or detachable spindle. Capacities for from one cow to a large herd. Operated by hand, gasoline or electricity. Sold on easy terms if desired. Write for local agent's address. Try it before you buy it.

King Separator Works of Canada
BRIDGEBURG - ONTARIO

Oh, You Skinny!

Why stay thin as a rail? You DON'T have to! And you DON'T have to go through life with a chest that the tailor GIVES you; with arms of childish strength; with legs you can hardly stand on. And what about that STOMACH that flinches every time you try a square meal? Are you a PILL-FEEDER?

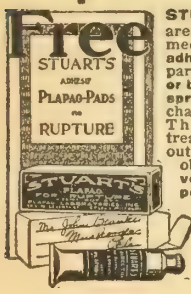
Do you expect Health and Strength in tabloid form---through pills, potions and other exploited piffle?

You can't do it; it can't be done.

The only way to be well is to build up your body---all of it---through nature's methods---not by pampering the stomach. It is not FATE that is making you a failure; it's that poor, emaciated body of yours; your half-sickness shows plain in your face, and the world loves healthy people. So be HEALTHY---STRONG---VITAL. That's LIVING. Don't think too long; send 6c in stamps to cover mailing of my book, "Intelligence in Physical and Health Culture," written by the STRONGEST PHYSICAL CULTURE INSTRUCTOR IN THE WORLD.

LIONEL STRONGFORT
PHYSICAL CULTURE
365 Park Building Newark, N.J.

Stop Using a Truss



STUART'S PLAPAO-PADS are different from the truss, being medicine applicators made self-adhesive purposely to hold the parts securely in place. No straps or buckles attached—no obnoxious springs. Cannot slip, so cannot chafe or press against the bone. Thousands have successfully treated themselves at home without hindrance from work—most obstinate cases cured. Soft as velvet—easy to apply—inexpensive. Awarded Gold Medal. Process of recovery is natural, so afterwards no further use for trusses. We prove it by sending you Trial of Plapao absolutely free. Write today. PLAPAO CO., Block 627 St. Louis, Mo.

Other Flours and Why

Continued from page 6.

the wheat available may go around. There appear to be two ways in which we may save wheat. First, by using more of the grain in the form of flour, and second, by substituting other grains as much as possible for wheat.

In the milling of wheat only about 70 per cent. of the grain is made into flour. The balance is sold as stock food in the form of feed flour, shorts, and bran. When there is a shortage of wheat, it does seem as though it would be good practice to use a larger proportion of the wheat for human food. Following this idea the British Government made it compulsory for the home millers to lengthen the extraction of flour to 81 per cent. and all flour imported had to be a 76 per cent. extraction. Reports coming to this country indicate that the bread made from this flour has not proved any too satisfactory, especially for children. The outer bran layers of the grain are very woody and indigestible and apparently have caused a good deal of intestinal trouble. It does seem as though there is some misapprehension regarding the value of the longer extraction. The bran material cannot be digested by human beings, but some of it is assimilated by ruminants and it would appear to be better practice to leave that portion of the grain for animal food. The germ is good human food, but its presence in the flour certainly shortens the life of the flour, especially in warm weather. In this connection it will be of interest to quote the findings of the St. Bartholomew Hospital in London, England, which were published some years ago.

"From the experiments we are justified in concluding that the higher nutritive value which we might, upon pure chemical grounds, ascribe to brown bread, cannot, with the single exception of fats and mineral constituents, be maintained from the physiological side. On the other hand, distinctly less nutritive materials actually get into the blood in the case of the brown than of the white bread.

"White bread is, weight for weight, more nutritious than brown. Therefore it appears the preference given by operators in large towns for white bread has to a certain extent a sound physiological basis.

"In the case of people with irritable intestines white bread is to be preferred to brown.

"In the case of people with sluggish intestines brown bread is preferable to white, as it tends to maintain regular peristaltic action and ensure regular evacuation of the bowels, with all its attendant advantages.

"In cases where the proportion of mineral ingredients, and especially of lime salts, in other articles of food or drink is insufficient, brown bread is preferable to white.

"If the dietary is insufficient in fat, or if the patient is unable to readily digest fat in other forms, brown bread may possibly be preferable to white."

I have advocated a 76 per cent. extraction flour, leaving all the flour in one grade, but it is argued that there would not be sufficient gain in flour to warrant the upsetting of the milling industry. This is especially true as the United States Government has not made any change that will affect their methods of milling.

The substitution of other cereal grains for wheat may be brought about in two ways. First by reducing the quantity of wheat breakfast foods and substituting oatmeal, cornmeal, etc., and by the use of the meal of these grains in making oat cakes, Johnny cake, etc., and second, by mixing the meal or flour of these grains with wheat flour in the manufacture of bread. If each household would make an honest effort to save wheat flour whether by the above mentioned methods or however it may be there would be little difficulty in saving the amount of wheat by which it is estimated we shall fall short of requirements.

There are many good recipes providing for the use of other than wheat flour in the making of biscuits, gems, etc., and it is not our intention to go into this side of the subject at present. We have, however, spent some time in carrying out baking experiments in which varying percentages of the flour from corn, barley, rye, oats, rice and potatoes have been used in varying quantities. The bread made in this way has been very satisfactory, but it would be a *big mistake if the miller were to commence mixing the flour of these grains with that from wheat.* Fortunately there is no likelihood of this as the miller does not want to see wheat flour adulterated.

The procedure we have recommended is to make a sponge with the ordinary white flour and add any desired quantity of other flour when making up the dough. With oat, corn, and rice flour we have always found that about 20 per cent. is about as much as can be used without seriously altering the porous nature of the loaf. In the case of rye and barley much greater quantities may be added. The accompanying cuts illustrate the difference in the size of the loaves of bread made from dough containing varying percentages of flour from other grains. In each case the wheat flour used was a 76 per cent. extraction and 5, 10, 15, 20 per cent. mixture of each of corn, oat, rye, and barley were used with it. The make up of the loaves was as follows:

No. 1—All white flour, 76% extraction.
No. 2—80% white flour and 20% other flour.
No. 3—85% white flour and 15% other flour.
No. 4—90% white flour and 10% other flour.
No. 5—95% white flour and 5% other flour.

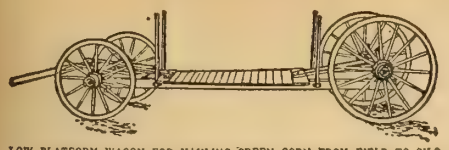
Very satisfactory bread can also be made by adding as much as 20 to 25 per cent. of oatmeal, granulated preferred, in the same manner as indicated above. Better results will be obtained this way than when the oatmeal is boiled before putting it into the dough.

The point may be raised that the flour from these other grains costs as much as the wheat flour and that, therefore, there is no saving. The point, however, is to save wheat and it is quite probable that if there were more demand for these flours there would be more of them made, which would do much to ensure a cheap article.

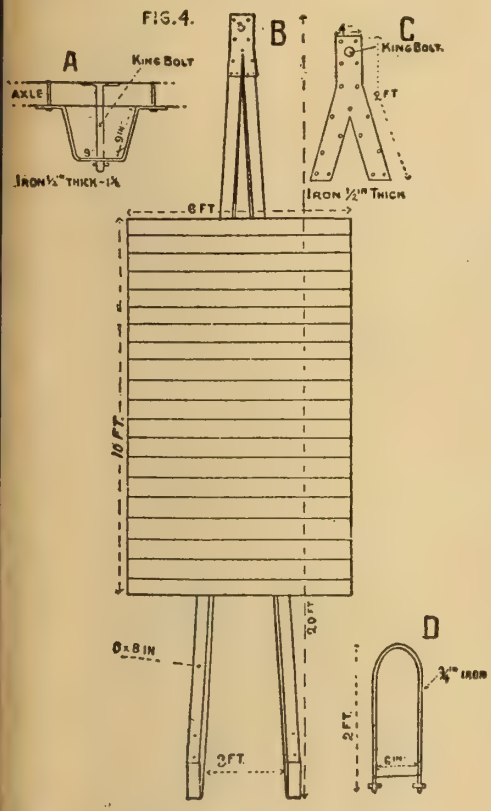
Use Potatoes; Save the Wheat is U.S. Advice

Meat and potatoes are a good food combination, and may be a better diet than bread and meat, according to the United States Department of Agriculture. At this time, when a plentiful supply of potatoes makes them cheap, and when wheat and flour are high, the average family, says the department, may find it wise to eat less wheat foods and to use potatoes instead. Potatoes at $1 a bushel give more energy and good mineral bases than bread at 5 cents a half-pound loaf.

LOW PLATFORM WAGON FOR HAULING CORN



LOW PLATFORM WAGON FOR HAULING GREEN CORN FROM FIELD TO SILO



DETAIL CONSTRUCTION OF PLATFORM.

(A) Shows front axle and king bolt.

(B) Shows front end of platform which is attached to the under side of the front axle.

(C) Shows an iron which strengthens splicing of the 3x8 in. timbers where they are attached to front axle.

(D) Shows an iron loop which goes over the hind axle and through the 3x8 in. timber. This iron loop attaches platform to hind axle of the wagon.

It is well to take wagon to blacksmith shop to have this work done, for not all wagons are the same size.

$220.00 In Prizes

to the Grand Champion Steer and Heifer

at

Toronto Fat Stock Show

UNION STOCK YARDS

December 7th and 8th, 1917

Good Cash Prizes for all classes

If you have not received a premium list and entry blank, write to-day

Cabbages in a Trench

Five years ago I hit upon a plan of keeping cabbages over the winter that I have since followed, and I find that many truck gardeners are successfully using the same plan. I dig a trench just as wide and as deep as the blade of my spade, and as long as desired. I then pull my cabbages and plant them in the trench, roots down, and pack the earth carefully round the roots. I do not remove any of the leaves. I place the cabbages in the trench close enough to touch, but not to crowd.

I then place over the trench an inverted V-shaped covering of boards, which I make water-tight. This covering is made of inch boards sixteen feet long, nailed to V-shaped braces made of two-by-four-inch scantling, joined at the top the same as the rafters on a roof.

As soon as I have placed this covering over the trench filled with cabbages I cover it with straw deep enough to keep out the frost, and then throw on dirt. The open ends of the trenches should be filled with straw enough to keep out the frost. Thus covered, you may defy the rains or freezing weather. Your cabbages will actually be fresher in the spring than they were when placed in the trench, and not one of them will be touched with decay. Many times I have known the cabbages to take root in the trenches and grow all winter.

The covers should be cared for during the time when not used to shelter the cabbages, and they will last many seasons.

Should you wish to take out cabbages for use in the winter, remove the straw from one end and with a strong wire hook pull out as many as you wish.—Walter Covey, in *The Country Gentleman.*

U.S. Government Machinery to Control Principal Foodstuffs Now in Motion

The machinery of the food administration has been set in motion to complete preparations for government control by November 1 of America's principal foodstuffs. Authority to assume provision over the leading articles of diet is vested in Herbert Hoover by a proclamation of President Wilson.

Under the terms of the order licenses will be required for the manufacture, storage and distribution of flour, bread, meats, potatoes, sugar, milk, butter and dairy products, canned foods, rice, staple vegetables and other stipulated commodities.

Farmers and small dealers are specially exempted.

The decision to extend food control to the foodstuffs mentioned was founded on a determination to prevent unusual profits and eliminate hoarding and speculation.—Winnipeg *Grain Trade News.*

Farm-Made Manure Cart

A Maryland dairyman uses an inexpensive, farm-made liquid-manure cart to convey this valuable fertilizer from the pit to the field where it can be evenly distributed.

He purchased a 300-gallon hogshead—the largest size he could obtain locally—and securely fastened the barrel at the middle of a four-wheeled cart. He bought an eight-foot length of inch-and-a-half galvanized pipe and bored a line of three-eighth-inch holes at six-inch intervals on one side of the pipe.

He threaded both ends and plugged them with screw caps, and at the center of the pipe, on the side opposite the small holes, he cut a threaded opening for a supply pipe provided with a cut-off cock to connect the sprinkler pipe with the hogshead. The top of the hogshead was then hinged and provided with a clasp to keep it from flying off when the wagon jolted over a rock.

At first the liquid manure was dipped by hand from the pit to the wagon, but as this was disagreeable and tedious work, particularly in cold weather, a force pump was purchased. The cut-off in the supply tank was equipped with a long metal trigger which could be tripped at the wish of the driver.

The total cost of this handy device was eight dollars, exclusive of the wagon. It has been used continuously for five years and has given perfect satisfaction. Naturally to give the proper fall so that all the liquid will drain from the barrel through the sprinkler pipe to the ground it was necessary to place the distributing sprinkler about twelve inches lower than the bottom of the hogshead.—*The Country Gentleman.*

THE

DECEMBER ISSUE

The FARMER'S MAGAZINE *for December will be one of the best editorially that has ever been issued. Besides a wealth of matter in every department there will be several short stories by Canadian authors. Watch for it.*

Man-Size Conversation

Something about Jones—The Test Question that Silenced Jennings—Where Jones gets the information that makes him listened to when he speaks.

AFTER the little group had finished their cigars, and were about to separate, each going his own way, Brown said to Smith: "Wasn't Jones great? And didn't he put it all over Know-It-All Jennings?"

It was just such a group of men as you see gathered every day round a luncheon table, or in the club lounge; and the theme of the conversation was likewise common enough—the present business situation, and the probable situation when Peace is made.

At first every man had opinions to declare, but most of all Jennings. Jones was, at the beginning, the silent one. But at a point when Jennings, with his usual cocksureness, was voicing some extravagant views, Jones rather jolted him by asking him, "What is your authority?" And Jennings didn't have authority—nothing more than opinions.

It was then that Jones began to talk, and his tactful, well-informed views and statements instantly commanded the attention of every man round the table; for every man was learning. Even Jennings had the grace to keep quiet, for he knew he was listening to a better-informed man.

Jones has a staggering question to put to men with opinions which they express boldly and confidently. It is: "What is your authority? Your opinions are no better than your information." The average man expressing opinions doesn't possess much solid information; he just "feels" that way.

Every man not an idler is interested in Business—first, in his own business; second, in the Nation's business. Whether he be a retailer in a country town; or a manufacturer; or a lawyer advising clients on investments; or a bond-dealer needing to know much about the many factors that affect prices; or a banker; or a private investor whose funds, invested or waiting investments, are his main source of income; he is interested in Business, and he needs information—the real stuff which is the basis of opinion.

Where can each get the kind and amount of information desired?

Let him get it where Jones gets much of his information —from THE FINANCIAL POST OF CANADA.

Jones does a good deal more than just pay $3 to get this paper every Saturday; he *reads* it. To him the POST is the newspaper prized most of all. He sets aside a certain set time each week for reading it. It satisfies him because its views are based on information, and information is the POST'S chief material.

The POST keeps Jones soundly and broadly informed about the business affairs of the country. He finds that the POST takes a business-like view of all questions; that it is not influenced by any political factions or "interests," that it tells the truth whether the readers like it or not. He knows that little of importance will occur in connection with the business of the country without enlightening information or comment appearing in the POST.

He gets the best-informed news about listed and other securities, in the POST:—Milling, Transportation, Pulp and Paper, Iron and Steel, Electrical Enterprises; and so on. This weekly Security News he finds is of an authoritative character —usually signed—prepared by specialists, who, from the nature of their daily work, are in intimate touch with the factors that affect prices, and with high-up or well-informed men who have *knowledge.* Jones finds no other paper in Canada attempting to give the service the POST does in relation to listed securities.

Jones finds the POST'S editorial page stimulating. He enjoys the biographical stories of Big Men which appear in the POST. The article each week by Agnes Laut gives him information gathered by one of the best informed and highest paid writers in America. In short, for Jones the POST is a treasury of information about Business; and it is Business by which Jones earns his bread and butter and something more.

When Jones mingles with his fellow men, and Business is the Theme of Conversation, most men are willing to listen to him, because his opinions are based on sound and reliable information.

Now, what is the application of all this? It is that you, the reader of this advertisement, may also make yourself a well-informed man about *Business—by reading THE FINANCIAL POST.* The $3 it costs per year is neither here nor there to the man who really wants to *know*—to have knowledge about matters and markets pertaining to his own business; and about the Country's business.

If you want your opinions to be well-informed; if you want a wide knowledge of Business; let the POST go to your home each Saturday. Sign the coupon below. Send no money now. Have the bill go forward in the usual way.

The Financial Post OF CANADA

The MacLean Publishing Co., Ltd.,
143-153 University Ave., Toronto.

Send me *The Financial Post,* for which I will pay $3.00 per year on receipt of invoice.

Name..... Address.....

Overland

Getting to Town

LIVING through the winter on the farm is no longer a hardship for the family that owns a motor car. No need of being cooped up—no need of foregoing the pleasure of a trip to town to call upon friends or visit loved ones.

The motor car has brought the town right to the farmer's door.

The new car you are figuring on should be big enough for comfort but not too large to be unwieldy or hard to manage

It should be powerful enough to climb the hills and pull you through the bad stretches of country roads but not overpowered to the extent of being too expensive to operate.

You'll find the Overland Model Eighty-Five Four an ideal combination of comfort and power and its economy will surpise you.

A long wheelbase of 112 inches; big, roomy seats and cantilever rear springs are just three of the reasons why this Overland rides so easily.

The thirty-five horsepower motor is exceptionally powerful and unusually economical. It has proved its worth in thousands of cars, both this year and in former years.

If you have decided to invest in a car, it will pay you to investigate the advantages offered in this model Eighty-Five Four. Let the nearest Overland dealer arrange to take you and your family on a trial trip into town. See him about it to-day.

Catalogue on request. Address Dept. 1109.

Willys-Overland, Limited

Willys-Knight and Overland Motor Cars and Light Commercial Wagons

Head Office and Works: West Toronto, Ontario

Branches; Montreal, Que., Winnipeg, Man., and Regina, Sask.

Williams' Shaving Cream

FOR the sake of your face—be careful. Getting the wrong shaving soap is serious. Calling it a cream isn't enough. It may be cream but it must be shaving soap. We have taken the famous Williams' lather and put it into a tube. You release a little every morning and get a shave that is a joy in the getting and a comfort all day. When the beard sees it coming it just gives up and quits. But the skin rejoices and never knows a razor has been along. That's shaving cream for you! Ask for it by its first name—"Williams'."

Williams' Shaving Soap comes in several convenient forms:

Stick, Powder, Cream, Liquid

and in round cakes

The J. B. WILLIAMS COMPANY

Canadian Depot: **655 Drolet St., Montreal**

Add the finishing touch to your shave with Williams' luxurious Talc Powder

N CENTS A COPY

ONE DOLLAR PER YEAR

FARMERS' MAGAZINE

00 COPIES OF THIS NUMBER PRINTED.

MEMBER OF THE AUDIT BUREAU OF CIRCULATIONS.

DECEMBER 1917

Ask Your District Representative for Information—

Your District Representative Wants to Work With You

That is his mission and his desire. A graduate of the Ontario Agricultural College, he is familiar with the science, and having been a practical farmer, he understands the practice of farming. He is the connecting link between the farm and the various branches and institutions of the Ontario Department of Agriculture. He is the Practical hired man of the community and he may save you many dollars. It costs nothing to give him a trial.

Forty-seven District Representatives in the Province of Ontario

freely offer their services to every farmer in their respective counties along the various lines listed above. THEY ARE ALWAYS READY. [illegible] office, can spend an hour, or [illegible] day. He has an automobile and can reach you [illegible].

Bringing Dollars to Your Farm

RIGHT IN YOUR FIELDS [illegible] work. He will [illegible] proven methods [illegible] general care of [illegible] FOR YOU THE INFORMATION [illegible] CONCERNING ANY ATTITUDE QUESTION OR PROBLEM RELATING TO FARMING [illegible] BE OBTAINED free of charge.

ORGANIZING THE COUNTY is part of his work. If you believe a farmers' club, boys' and girls' clubs, ploughing match, co-operative [illegible] association for the purpose of buying or selling any kind of goods or produce, [illegible] farm, starting field crop competition, [illegible] Agriculture, or any other organized [illegible] is required in your community, Write you. Discuss [illegible] representative about it. He will assist you to plan [illegible] organization or [illegible] a club meeting.

IS THE LABOR SHORTAGE [illegible] YOU? [illegible] Agricultural College [illegible] see you [illegible] YOU MAY BE [illegible] LOSS OF A COLLEGE SHORT COURSE [illegible] ONTARIO WITHOUT LEAVING YOUR [illegible].

A SPECIAL INFORMATION [illegible] be discussed. Write you. Discuss [illegible] ARE HIRED MEN SCARCE? [illegible] Representative can help you [illegible] the Ontario Labor Bureau [illegible] in touch with the very man you are looking for.

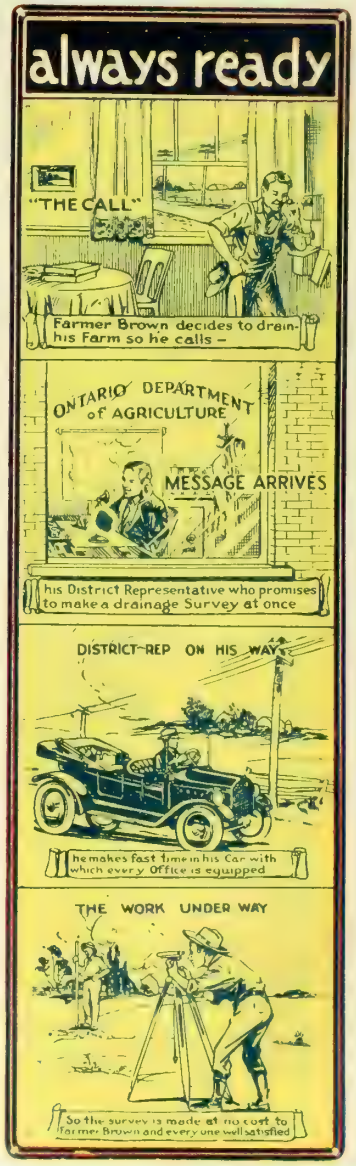
Young Farmers To-day—Leaders To-morrow

RURAL DEPOPULATION BEGINS in the wrong attitude of mind in the child. The rural school [illegible] farm [illegible] District Representative [illegible] organization [illegible] give the child a [illegible] for full [illegible] and the [illegible] INTERESTING [illegible] Courses [illegible] Weeks are [illegible] a representative [illegible] in the district [illegible] Summer courses [illegible] for young women. [illegible] and districts [illegible] these valuable [illegible] agricultural [illegible] To enable them [illegible] organization for [illegible] the students of [illegible] organized into [illegible] society, education [illegible] movement! Our [illegible] Association is [illegible] the province.

[illegible] ACCELERATION OF BOYS' AND GIRLS' is the best [illegible] And it is by [illegible] gained at short [illegible] these young men [illegible] which the point [illegible] in practice [illegible] in feeding [illegible] Home garden [illegible] a big interest in [illegible] Young farmers is a [illegible] Ask your representative about it.

These are Some of the Ways, Not All

[illegible] CALL AT HIS OFFICE. It is [illegible] equipped, and [illegible] you may read the [illegible] books and the best [illegible] You may meet agricultural organization [illegible] upon request, and free of charge. Demonstration material there may interest you. Perhaps you may secure a tractor at cost to assist you in [illegible] YOUR VISIT WILL BE WELCOMED AND IT WILL PAY YOU. When writing or visiting, kindly mention this advertisement and give full information regarding the exact nature of your case.



ONTARIO

Ontario Department of Agriculture, Parliament Buildings, Toronto

Sir Wm. H. Hearst, Minister of Agriculture — Dr. G. C. Creelman, Commissioner of Agriculture

Call at His Office—or write Him and get acquainted

THE MACLEAN PUBLISHING COMPANY, LIMITED, MONTREAL TORONTO, WINNIPEG

REGISTERED

The "Monarch-Knit" Family

MONARCH-KNIT
THE MONARCH KNITTING COMPANY, LIMITED.

"Monarch-Knit" Hosiery

Charming and Durable

Ask your dealer to supply you. If he is unable to do so, write us direct giving us your dealer's name, and also color and size you require, and we will see that you are supplied.

Monarch-Knit Hosiery has that richness of appearance which the modern woman admires, and yet is not costly. Our selection of yarns and perfect knitting gives a durability that is satisfying thousands of wearers of "Monarch-Knit" Hosiery.

Monarch-Knit Hosiery is made in all grades for Men, Women and Children.

THE MONARCH KNITTING COMPANY, LIMITED, DUNNVILLE, CANADA

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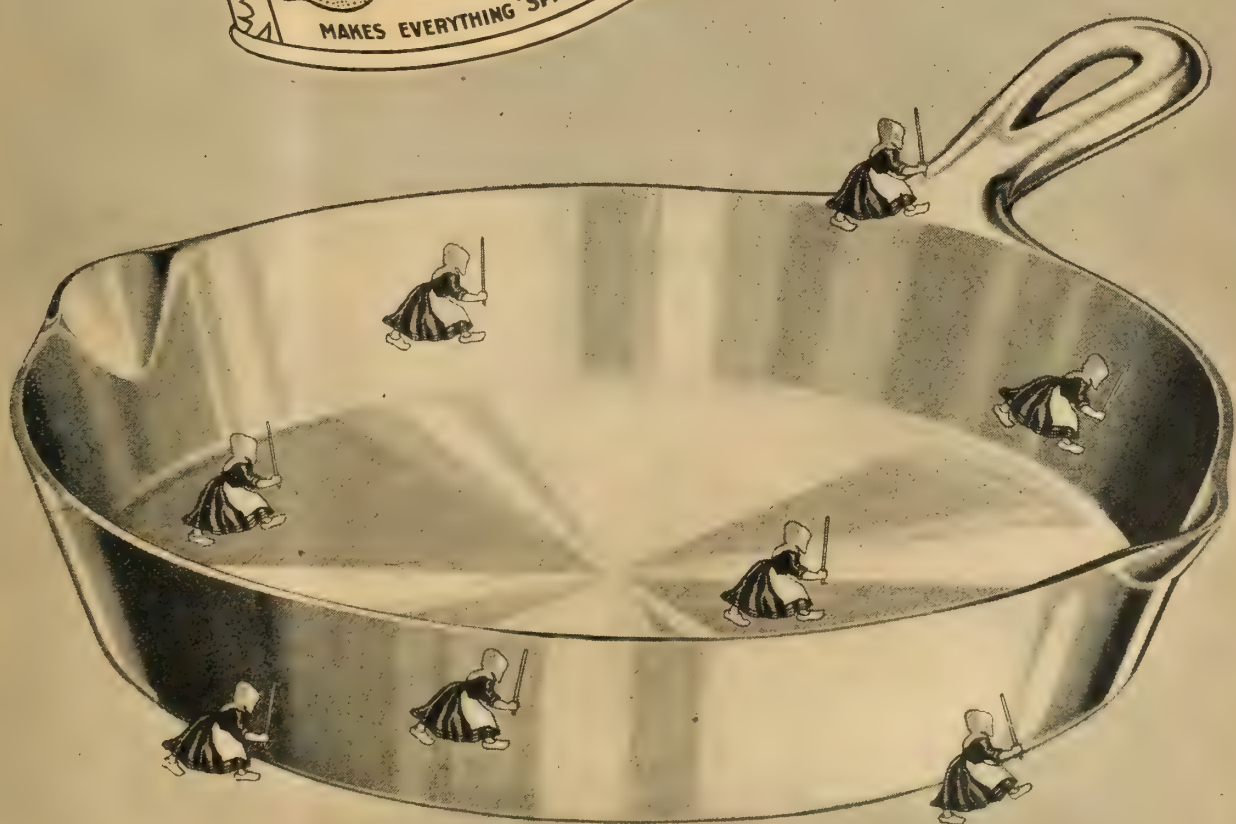

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FARMERS' MAGAZINE

JOSEPH MCGOEY, *Manager.* F. M. CHAPMAN, *Managing Editor.*

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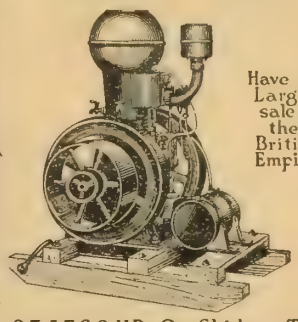

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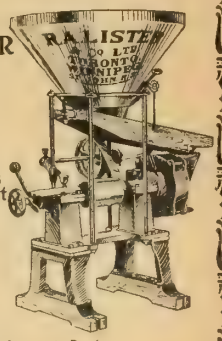

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Farm Help Will Not Be Drafted

Food Production Vital

"I will see to it that if any farmer's son, honestly working on a farm for the production of food, is drafted, he will be discharged from The Canadian Expeditionary Forces, if he goes back to the farm."

—Gen. Mewburn, Minister of Militia, Dundas, Nov. 24th, 1917.

"In the general policy of the law and instructions issued to the tribunals, the farming industry is certainly recognized as one of the utmost importance to the national interest and therefore it is the duty of the tribunals, in the proper execution of the responsible duty with which they are charged to see that effect is given to farmers' claims in proper cases."—E. L. Newcombe, President Military Service Council, Ottawa, Nov. 26, 1917.

ENTITLED TO EXEMPTION—"Men who are habitually and effectively engaged in the growth of agricultural products and whose labor cannot be diverted from that occupation without substantially diminishing the necessary supply are, in the view of the Military Service Council to be entitled to exemption, so long as they continue to be usefully employed in farming. It is assumed that the tribunals will realize that the farming industry should compete successfully with military service in those cases where it is established that the withdrawal from the former occupation of men qualified for the latter service, will materially diminish the ouput or production necessary for the maintenance or efficiency of the expeditionary force or the support of the people at home."

—*Military Service Council, Ottawa, November* 26, 1917.

The country relies on the farmer, not only for food, but for striking a sane balance on political matters. Free from the turmoil of city life, he has a sane, clear view of large affairs.

In the present crisis he recognizes clearly that the real political leaders of both parties have cast aside party allegiance and have joined together for the winning of the war. This is the one great issue and to see it accomplished requires the whole-hearted support of every patriotic Canadian.

Support Union Government

Quebec, which has not done its duty in this war to its mother country, France, to the protector of its liberties, Great Britain, or to its native land, is solidly lined up against Union Government with the determination, rabid in its intensity, to bend the rest of Canada to its will. By appealing to the slacker it hopes for Victory.

Unionist Party Publicity Committee

The Loyal Farmers of Canada

Their Vital Interests Bound Up in Coming Election

Exemptions for Farmers

Every man and woman who is true to Canada and our boys at the front knows that reinforcements must be raised quickly and sent across. Union Government is pledged to raise them under the Military Service Act, 1917, as the quickest, fairest and only practical means at hand, now that the possibilities of voluntary recruiting have been exhausted.

The Military Service Act places the national interest first and foremost and it is *not* in the national interest that farm help be drafted. The Minister of Militia has pledged himself to this viewpoint. Union Government will carry out this construction of the Act to the farmers of Canada.

Equal Representation Under Union Government

The fainthearts, the indifferent, the quitters must NOT be permitted to interfere with the will of the people as represented in the leading men of both parties, brought together in the Union Government. The great Liberal leaders have thrown in their strength and influence with the great Conservative leaders for the winning of the war. These men have sunk political differences in the hour of great national danger, and they look to the sound, clear judgment of the loyal farmers of Canada to return them to power.

The Encouragement of Co-operation

Sir Robert Borden in his Manifesto outlining the policy of Union Government pledges the encouragement of co-operation among those engaged in agricultural production, with a view to diminishing the cost of production and marketing so that the price paid to the producer may conform more closely to that paid by the consumer. This will mean greater profits for the farmer, while at the same time it will reduce the cost of living to the ultimate consumer. The middleman is the loser, and he must readjust himself to work which is productive and useful to the country at large.

Pacifism, cowardice, lack of moral backbone, treasonable sympathy with the enemy must all be held in check by the vigorous assertion of the national will by the patriotic elements, especially among the vast agricultural interests of the country.

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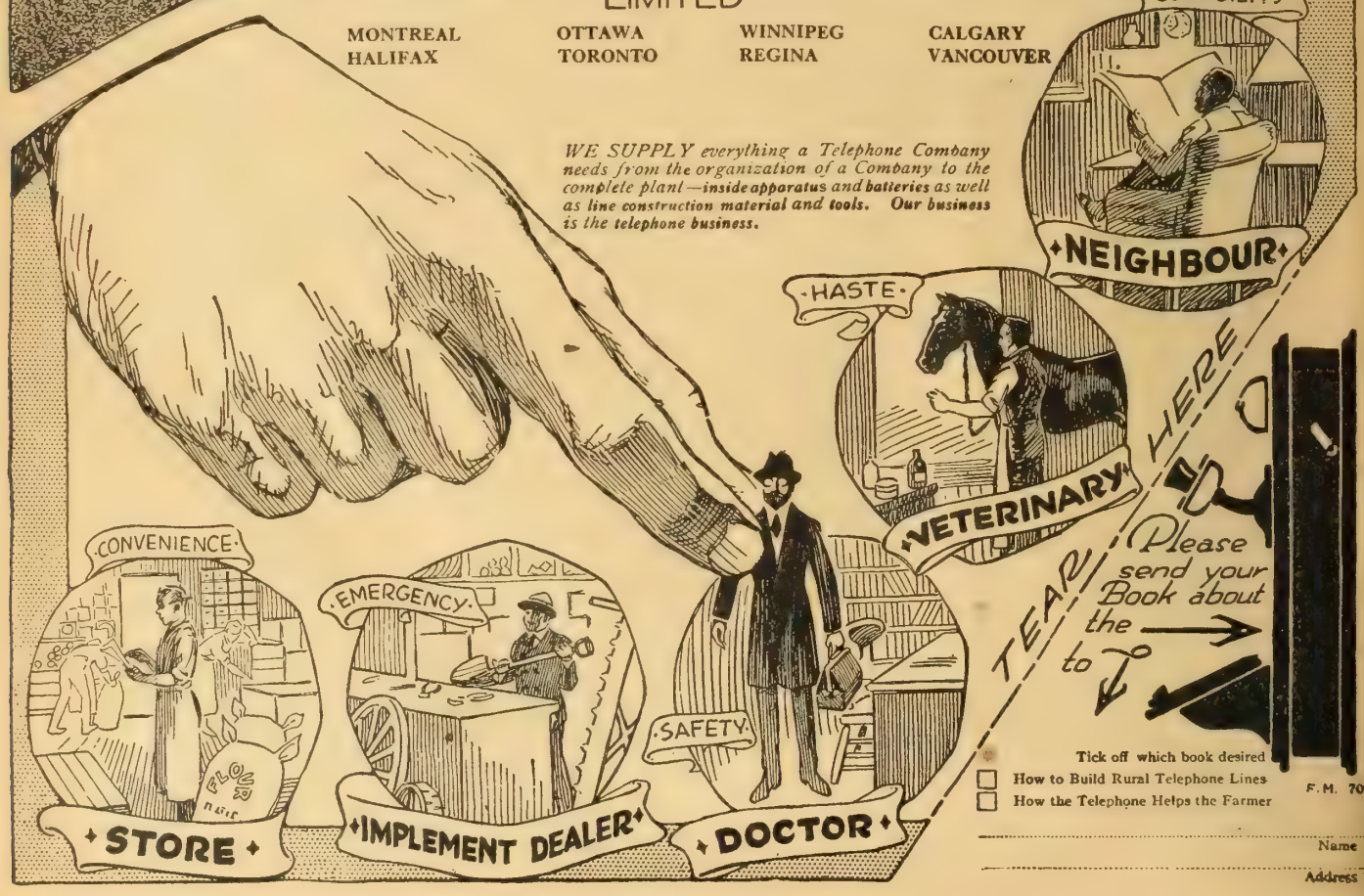

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FARMERS' MAGAZINE

Volume XI TORONTO, DECEMBER, 1917 Number 2

Conscript—To the Farm

By THE EDITOR

MODERN warfare is certainly a business proposition. Two things outstand in Canada beyond all others. These are our food-producing powers and our ability to get the produce to our Allies.

This importance of agriculture and shipbuilding is further impressed upon us by the public utterances of men who are in a position to know. President Wilson has publicly stated that upon the farmers of the United States hinged the fate of the nation. Premier Lloyd George of Great Britain backed up his published words to the same effect by guaranteeing produce prices to the farmers covering a period of two years. United States Food Controller Hoover states that food production is the biggest task to-day.

The editor of the London *Daily Chronicle*, in a cable just to hand in the press, states that the great need of the Allies there at the present time is ships and still more ships. "We are fighting," says Premier Lloyd George, "for our lives. We have terrible struggles on hand, but if we are secure on the seas, well, to use the phrase, 'we have got them'; they cannot escape us."

Surely it must be clearly established in the minds of all Canadians at the present time that the production of food in 1918 and the successful carrying of that food to the front will mean the certain "getting" of the enemy. And yet the action of the Government of Canada in allowing such a campaign of recruiting and drafting to go on from the farms among the boys who know how to farm make one wonder whether the proper kind of wisdom is enthroned in the high places. The work of the exemption boards all over rural Canada during the past month have created unrest, suspicion and an utter lack of confidence in the cabinet. To offset the damage that has already been done by the lack of a clear-cut, definite policy in regard to these matters has brought interjectory statements of policy from several ministers on the hustings. The Minister of Militia, speaking at Dundas, said that *farmers' sons who are honestly engaged in the production of food will be exempt from military service.* He went further and stated that he would honorably discharge all such, if the tribunals had not done so.

But *this is not a matter of grace to agriculture.* The farmers are as anxious as any other class of men to do their part at the front. In fact, that has been already demonstrated. Hundreds of farm homes are bereaved and thousands awaiting news every day of loved ones on the firing line.

It is a matter of national business. Production should be so assured, as a governmental policy, that every farm boy, skilled as he is at his work, should be on the farm for his best services during 1918.

That means that not a farmer's son should be called in the present draft, no matter whether he wishes to go or not; that is not the question. It is one of the most urgent efficient services to the State that this boy can give. His contribution lies in increasing production.

The country has been in a state of ferment with meetings of protest because of the unfairness of the procedure which calls away the boys from the farms. The farms are not equipped anywhere like a man and a half to the hundred acres. Already production is likely to fall down owing to the work of preparation being hampered this fall. That the coming year will witness further reductions in the estimates of foodstuffs is a foregone conclusion, unless farmers and others are *conscripted*—to the farm. And this is the conscription that should be applied at the present time. Italy demands it. France demands it. Common allied interests are at stake.

How would we apply it?

Recognizing the urgent need for helping France, Italy and Great Britain in the matter of food, and the colossal task of feeding a contribution of 500,000 from Canada and nearly two million from the United States, we would conscript to the farms all the available skilled labor as well as all these who were turned down by the medical boards, as far as they are able, to take charge of some feature of farm production.

The amount of work entailed in a big hog production, greater beef raising, increased sheep farming, better poultry business, and general farm endeavors in 1918, will absorb for its successful operation, a host of fresh hands. Now is the time to do it.

There never was a clearer case at issue. The Allies today move on their stomachs. The wheat fields and stock stables of Canada are the granaries. The ships are the arteries supporting this big alimentary canal. Useless, indeed, will be the sacrifice in blood and treasure, if the motor trucks that run from port to military base, be delayed in its commissariat work.

IT IS A QUESTION OF STAYING POWERS

This war is a war to be won by the one who can stand up the longest. Standing up requires food; food requires production; and healthy arteries of commerce are, therefore, essential to the situation. All questions of sentiment and prejudice in a business war must stand aside. The need is great. The limitations are many—poor organization, depleted farms and discontented and unsettled opinion. The remedy is organized conscription to the farm—why not?

1.—Leave every farm boy (skilled labor) on the farm.

2.—If more than two boys on the 100 acres, conscript one to another farm.

3.—Demand a time service on the farm as for military service, and, if found disengaged, enlistment in the army the alternative.

4.—Call up all those who are rejected from the first draft, and who can do certain farm work, and send them to the work.

5.—Demand that every farm produce its maximum next year of wheat, beans, pork and beef.

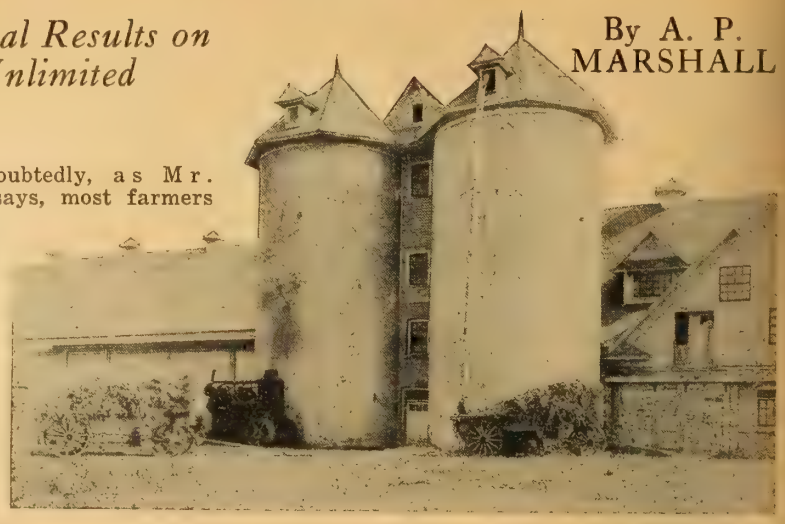
6.—Mobilize farm tractors and farm power machinery in an intelligent way.

7.—Distribute necessary fertilizers for wheat, beans, and potato crops.

Larkin's Departmental Farms

Business Management Must Show Real Results on These Farms, Even if There is Unlimited Capital Behind Them

By A. P. MARSHALL



The twin silos at the Larkin farms, Niagara.

THE Larkin Farms consist of 1,900 acres in two farms under different management, 900 acres in the one and 1,000 acres in the other. Farm No. 2, under the guidance of J. A. Calvert, is situated just south of Brock's monument at Queenston Heights and is spoken of frequently as the Hill Farm. On this farm are bred Jersey cattle, Shropshire and Southdown sheep, and Berkshire swine.

Most of the feed for these animals is produced on these farms, enabling them to use practically all the grain produced. To give a slight idea of the quantities produced here for home consumption it may convey a clear idea when we say that the rows of mangolds this year stretched out in one continuous row would measure 40 miles. These are immense big tubers that have attained a size that make each one a meal in itself.

Just as the business man, as his business expands, finds he must divide his operations into departments under proper heads, so, here, there are the various distinct departments under separate heads each responsible to the manager of the whole on this farm. Distinct departments with their superintendents are to be found as follows: Sheep, hog, Jersey cattle, general farm, day labor, and fruit.

Each department manager reports daily at 6.30 a.m. to the manager so that he knows exactly where each of the 40 men employed is working for the day. Accurate record of all details properly posted gives a very clear idea of department and job costs so that crop costs can be determined as nearly as possible. If there is a profit, the crop that brought it is known. Where losses occur, that is known to a certainty also.

For undoubtedly, as Mr. Calvert says, most farmers only know at the end of the year that they made a profit, but they do not know what crops have been entirely responsible, nor do they know which have been costing too much. Naturally, intimate knowledge of causing conditions and varying years are necessary to truly determine the real correctness of record evidence. In other words, the records do not bring results, but merely show where and why results exist and afford very valuable comparisons by which to learn accurately requirements needed. In subsequent articles some of these records will be used as the departments affected are treated.

The little detail of having the department managers report work for the day at 6.30 a.m., as an example, shows considerable value, for, outside of the record it affords, this makes it necessary for the one reporting to plan his work, enables the manager to know where every man is placed and see that all are working in the general interest of the whole, and direct any changes that seem better. Reference back shows very clearly the way the work is progressing and by comparison with previous years shows conclusively if costs are increasing or not, and, if so, a close analysis may show the difficulty and enable correction and possibly new knowledge is gained that otherwise would be entirely unnoticed.

The men's dwellings are all identical and complete. Each is 35 x 38 and have 3 bedrooms, dining room, kitchen, and living room.

WELL-ARRANGED BUILDINGS

Good arrangement of buildings makes the handling of details very much easier and keeps the work centered around a common working base resulting in better co-operation and unity of effort. On the Hill Farm entering beside the manager's house one would at a glance see that the principal farm buildings are arranged to form an immense courtyard all in view of the manager's house. The whole probably occupies about 20 acres. Arranged around this court and in following order are the Jersey barn, horse barn, implement shed, including blacksmith shop, 18 sheds and store room for tractor, as well as store room for large separator with, on the second floor, carpenter shop, paint shop and granary, then the piggery and finally the sheep fold. Each of these buildings would look very large on most farms and were substantially built of reinforced concrete by the present manager, Mr. Calvert.

Visitors are always welcomed and allowed to explore the buildings. When talking over matters with Mr. Calvert, one asked permission to inspect the farm. "Why certainly," said Mr. Calvert, genially, "but there is one condition you must respect. Do not take any of the buildings."

In a convenient place in front of the implement shed is a large artificial pond from which ice is secured for refrigerating purposes.

HOMES FOR HIRED MEN

Each of the buildings for livestock has attached to it a very spacious barn yard encircled by most substantial fences with immense concrete posts joined by round painted metal tubing making a result that at once conveys the impression of permanent solidity.

The labor question is, of course, of great importance, but this seems to have been worked out by affording special advantages to those working on the farms. On the Hill Farm are 17 dwellings all identi-

cal and built of concrete. They are 35 x 38 and have 3 bedrooms, 3 clothes presses, dining-room, kitchen and living room, cellar throughout the whole basement, a grade entrance, front and back porch, and a two-barrel cistern in the cellar.

These houses are built on a common plan and are so exactly alike that no care is required in the removal and storage of screens or windows; 12 taken from one house will fit on any or all of the other windows, making no confusion possible by interchanging or mixing in handling.

Each of the men with families has his house and certain supplies, his plot to work for garden, and a good farm wage, scaled to be largest during the busy summer months. In consequence better men stay, and by experience become more capable along the desired lines on which the farm is being developed.

USES TRACTORS

Tractors have become an essential part of the equipment. Two are used, a Chase and a Rumley. The former will handle 3-10 in. bottoms and the later 10 plows 10 in. bottoms.

One of these recently made an interesting caravan of produce with its eight wagon trailers loaded with 1,000 bushels of wheat delivered in one trip to Niagara Falls to go into Shredded Wheat. This year 50 acres averaged 41 bushels to the acre.

Fruit will be a big factor in a very short time. Twelve thousand apple trees set out will begin very soon to bear and offer another revenue-maker on this large farm. Four thousand peach trees will bring results considerably sooner. Already these are requiring considerable attention and have a special fruit manager responsible for their welfare.

RAMSAY MANAGES 1,000 ACRES

Farm No. 1, that one between Queenston and Niagara-on-the- Lake, is under the management of A. A. Ramsay and is composed of 1,000 acres. Here the practical side is uppermost and good as well as profitable results are generally obtained. Mr. Ramsay does not believe in "all books and no business," but at the same time he knows just what the farm is doing.

The average farmer in speaking of his profits makes no consideration of his own and his family's time. On a farm of this kind the labor is a regular every week expense and must come back from the revenue from the crops. Profits are additional to this only.

Here are produced hay, wheat, corn and oats and all the essentials for sustaining a substantial stock farm. One hundred acres in peaches is a large business in itself. With a siding right on the farm shipping and loading facilities are the very best.

Fourteen years on the farm with hard earned years of practical experience previous to going with Mr. Larkin have taught Mr. Ramsay the essential things to produce the most with the conditions and means available.

A tractor took 1,000 bushels of wheat to Niagara Falls on eight trailer wagons.

The question that every farmer will ask, who reads this article on one of the big farms of Ontario, is, does the proposition pay? In the case of big farms which are financed by rich proprietors in outside business, it is hard to get at the situation as to dividends on capital invested, and in this regard such farms are not greater offenders than the many small farms that do not return any interest on overhead. In this case, the managers of these farms are endeavoring to prove that dividends can be earned on good working equipment. There are many business features about their farm work that will stand emulation. Further details about the efficiency of departments will appear later.—EDITORS.

While fertilizer is heavily supplied by the 250 fine Aberdeen Angus cattle on the farm, a car of phosphate is used every year and is considered a necessity if the best results are expected. Even the present day article short in potash is found sufficiently beneficial to consider it most advisable if not really necessary.

There are 250 Aberdeen-Angus cattle on the farm,

HOW FARM IS FERTILIZED

Two thousand loads of barnyard manure make it possible to keep the land not only renewed, but improve the growing conditions. In a bad year this season 134 acres yielded 7,116 bushels of oats. In 1915 both wheat and oats yielded 65 bushels to the acre for lots of 10,000 bushels each.

A rotation is practised which as nearly as possible is hay, corn, hay, oats and wheat. People wonder how Mr. Ramsay gets such immense fodder crops, but year after year he is taking off as much as 25 to 30 tons of ensilage to the acre. The corn is all planted in hills and with the land well enriched brings expressions of surprise to those who wonder how the results are obtained.

The big silos here hold 500 tons each and are attached in pairs to each big barn.

Housing for the help is taken care of in the same manner as at the Hill Farm with 16 unit concrete houses. Some difference, however, is found here in the barns where less concrete is used. The experience here is that the wooden building is drier and warmer than the concrete. With complete concrete, semi-concrete, and complete wooden buildings on the farm an excellent opportunity is offered to study the results in each case.

Many people experience great difficulty in getting rid of quack grass, but Mr. Ramsay uses what he finds to be an absolutely positive method of eradicating this persistent trouble. Late in the fall after first frost the ground is cut or plowed 3 inches deep only and then disked thoroughly, cutting the quack up completely. In the spring it is plowed 8 inches and seeded to corn. This is much better than summer fallow.

A large number of sheep, pigs, and cattle are sold for breeding purposes. The confidence which has grown up in the animals grown here is doubtless very largely due to the absolute accuracy of the records. As may be supposed occasionally animals are without exact registry. In all cases these are disposed of at meat prices even when they appear to be very superior animals.

A view of the implement sheds substantially built. Carpenter shop in the centre

The sheep fold on the Larkin farms where the Shropshire and Southdown sheep are kept.

A Christmas Romance

By ALLEGRA CRONK

"WHY won't Santa Claus come this year?" lisped little Arthur.

"Because, dear, Santa Claus goes only to those who have money, and mother hasn't a single copper to spare this year, but we'll have a nice day to-morrow, for mother isn't going to sew a single stitch and we'll just play all day long, won't that be fine?"

Little Arthur slid down the steps and gathered up his blocks while mother thought sadly of the gay Christmases that stretched back over her own childhood, of the misfortune of her husband's long illness that had absorbed all their savings and of her own independence in hiding her poverty from her friends.

For Mrs. Howard had chosen to support herself by sewing. She was skilful with the needle, but she possessed other talents that would have brought a good salary, only that would necessitate her absence from her children, so she accepted the bare existence that she might be with and train them.

In the midst of her reverie little Arthur again interrupted.

"Mother, Santa Claus has to start early to get all round, doesn't he?"

"I suppose so," answered Mother.

"Then may I go out to the pavement and watch? I might see him and ask him to come here."

"Yes, you may go, but come in soon for it is cold," said she, buttoning up his coat and thinking that the fresh air would be good for him.

James Stewart, clad in his big fur coat, was driving his handsome team of greys out of the town toward home. He had not realized that it was any different from any other afternoon when he drove in for certain books of reference at the Library and certain household commissions from Jean, his old Scotch housekeeper; but when he got to town Christmas confronted him on every side—Christmas trees in shop windows, holly and mistletoe and spruce, red ribbons and white parcels and, worst of all, he had bumped right into Santa Claus himself in the department store. Everybody seemed to radiate jollity and good cheer and somehow it all rasped and irritated him. Why hadn't he remembered the day and stayed at home? Worst of all, an acquaintance had asked him to deliver a package on his way out, a huge Christmasy thing that occupied more than half the seat. HE had no one to make Christmas for, no one to make Christmas for him and he hated the life and light that made the contrast sharper.

Stopping his prancing team he gingerly picked up that parcel and carried it to its destination. He was about to step into his sleigh again when a small voice, full of anxiety, piped right beside him: "Please, Mister, are you Santa Claus?"

The ironic answer coming to his lips was checked when he turned and gazed into the soulful eyes of his small questioner and, by the time the child had repeated his question, James Stewart heard himself replying:

"Well, no, not exactly, but I'm his agent. Climb in and I'll take you back to town where he is."

He felt the crust about his heart give a sudden crack, which seemed to widen as he held the robes tight about the little fellow and listened to his chatter.

He had wanted to ask Santa Claus if he would come to their place even if they didn't have any money, confided the boy, and if he would bring mother a pretty dress—she had never worn a pretty dress since father died—and Irene's doll was all worn out and he wanted a sled himself most awfully bad, like the one Tom Fisher had next door.

By the time they reached the store James Stewart had a fair grasp of the conditions in the Howard home, and when he confronted Santa Claus this time the irritation had given place to positive pleasure. He introduced his small charge and allowed him to make his requests, then passed on to give Arthur a glimpse into the toy department and see if Santa Claus kept sleighs just like Tom Fisher's.

Mrs. Howard had lighted the

Continued on next page.

lamp and was setting the table for supper when she remembered Arthur; in thinking of Christmases gone by she had forgotten the child.

"He must be almost frozen," she thought, as she hurried to the door to call him in. No Arthur was there; she ran out to the pavement and looked up and down. A great fear seized her, what had become of her boy? He had never wandered away before. She was hastening back to get her wraps when she heard a sleigh stop and, looking round, saw Arthur being lifted out. A surge of joyful relief swept over her, and meeting the child, she exclaimed as she caught him in her arms:

"My darling! Mother thought she had lost her boy. Where have you been?"

"Just to see Santa Claus, and he's coming all right," was the ecstatic answer. "And I've been to his shop and seen all his things and——"

The door closed upon them and James Stewart once more turned his greys toward town while Mrs. Howard's voice seemed to haunt him and recall the sound of another voice. Hers—in the long ago past that he had vainly tried to stifle and forget.

Back in town he soon ordered the very sled Arthur had selected, also a picture book and, though quite unseasonable, a ship that had taken the child's fancy; then a fine doll for Irene and a dress for an eight-year-old. "Now for the pretty dress for Mother," he thought. "What shall it be? SHE used to always wear blue—the child was very fair, perhaps blue will suit her."

Then he spent a longer time selecting a book. "The child showed cultured care so she will appreciate something good," he decided.

Next came the grocery department. Here James Stewart felt at home for he knew something of food values and selected a good supply of vegetables, fruits and cereals—oranges, dates, figs, raisins, rice, nuts, then, yes, a chicken, that would be abundance for three. The order would be delivered by eight p.m. he was assured.

He was about to leave the store when it occurred to him to give Jean, his housekeeper, the surprise of her life by taking her a Christmas present. But what would she like? He puzzled a while then recollected that he had heard her say she must either get a new Bible or new glasses. He would get her the Bible—large print, best binding and India paper—it was a beauty. He bought a sheet of Christmas paper and some holly ribbon that it might be done up in style.

For the third time he turned his horses toward his home, three miles away, and this time the Christmas parcel by his side gave him a delicious sense of being in harmony with the general holiday cheer.

The next morning Jean rang the breakfast bell as usual and, as James Stewart came to the table, he laid a parcel by her plate, wishing her a Merry Christmas. With lively anticipations of the shock she was getting, he waited.

Jean gazed at the parcel with a look of utter amazement, which rapidly changed to terrible certainty.

"It's coom," she thought, "shuttin' himsel' in wi' all they expeeriment things an' livin' in buiks hae sent him daft."

James Stewart, laughing heartily at Jean's expression, announced:

"It's all right, Jean, it was Christmas Eve when I got to town yesterday and Santa Claus sent you that; open it up."

Jean, nowise convinced in mind, slowly undid the gay ribbon and paper, but when the contents were disclosed all her fears vanished and she broke into a torrent of admiration quite unlike her usual staid demeanor.

"The varra thing I was wantin'! Mon, but yon's a beauty! Sic thin paper an' what a gran' cover! But the letters, I can read it wi'oot ony specks at all! It must hae cost a tidy bit siller! Mair than I would hae thocht o' spendin'. Ye hae gi'en me a day to remember."

The morning passed slowly to James Stewart, his lonesome room held no charms, his study was no better. Forbidden memories kept surging back—it was on Christmas Day they had quarrelled; he had been jealous and hasty; she a bit independent. Long afterwards he had realized how foolish it all was, but his efforts to find her were vain. Methodist ministers' families keep moving on, the father had died and there was no trace further and so he thought and thought.

Finally he decided to give up trying to work. He would go into town after dinner and take those two children for a Christmas sleigh-ride (the boy had wonderful eyes like hers, he remembered).

"Jean," he remarked at dinner, "I find I have to go to town, would you like to pay your quarterly visit to your old friend?"

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The Milch Goat in B.C.

By A. J. CHARMAN

THE support given to the B.C. Goat-breeders' Association during the first year of its life denotes a change of attitude on the part of many of our farmers towards that thrifty animal, the milch-goat. The pioneer work of the enthusiasts who organized the Association has created a lively market for good stock and corrected many false notions in regard to the merits and demerits of "the poor man's cow."

The inhabitants of continental Europe have long been aware of the value of goats to the small farmer. The names of the breeds now becoming well known in the West for their milk-producing qualities, the Toggenburg, the Saanen and the Saarbruck, show their Swiss and German-Swiss origin. Frequent mention in historical works proves that in Eastern Europe and Asia Minor goats were raised in large numbers by the ancient peoples of those regions, while their modern descendants, in the more remote parts, still rely mainly on them for a livelihood.

There is nothing quite so deadly as ridicule, and in North America generally the goat-raising industry seems to have suffered from it. In this land of big things the economical little nanny has certainly been overlooked as a money-maker, but when capable, far-sighted farmers are willing to pay the price of a good cow for a well-bred buck of a standard breed of milch-goats, as is the case to-day in B.C., it is safe to conclude that there is "something in it."

By that I do not mean that the dairymen of the Fraser valley are exchanging their herds of Holsteins for Swiss goats! It is the brush-farmer, the man who is building up a small farm or fruit ranch on the logged-off lands of the province who is finding an ally in the omnivorous goat. Our diversified woodlands and mild climate are ideal for this class of livestock. When the heavy timber is removed and the sunshine let in the wild lands produce a great variety of shrubs and trees of a deciduous nature such as the alder, dogwood, vine-maple and willow, while native grasses and tall weeds soon cover the more open ground. An acre of this, fenced in in the rough is "paradise enow" for the goat and will support half-a-dozen nannies the year round except during a week or two of occasional snowfalls in midwinter. The problem of clear-

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A herd of milch goats and their stable quarters.

Grant Buys a $1,000 War Loan

Like Many a Farmer He Did Not Understand all About Bonds, But Responds Like Thousands More to the Country's Need

By JOHN C. KIRKWOOD

EDITOR'S NOTE.—*The accompanying story of how John Grant, Canadian farmer, was induced to put money into Victory Bonds will be read with much interest—we hope, with responsive practical interest—by many of our readers. We think that Mr. Kirkwood, who narrates the story of Grant's conversion from a state of little interest to becoming a real and substantial supporter of the Victory War Loan, shows a certain harshness in his estimate of Grant, yet this type of man, it must be admitted, is common enough.*

We commend the accompanying article to the consideration of all who have not yet subscribed to the Victory War Loan in the hope that many will be led to buy Victory Bonds for both patriotic and selfish reasons

JOHN GRANT is a farmer. He is of Scottish descent, and so one expects him to be thrifty and long-headed, and one is not disappointed when he learns the story of Grant's prosperity. However, this is not to be the story of John Grant's career, but of his investment in Victory War Loan Bonds.

Until this year—this autumn—Grant knew next to nothing about bonds. He knew more about stocks and shares, for he had been frequently solicited to put money into mining companies and other speculative enterprises in which the lure was the prospect of fabulous gains. He knew all about John D. Rockefeller's rise to fortune, and something about other men of great wealth who had "got in on the ground floor." But about bonds Grant really knew nothing. His faith was in mortgages and banks, and his money followed his faith.

Then came the spectacular campaign to get all the people of Canada to subscribe for Victory War Loan Bonds—the campaign that was ushered in with plentiful newspaper advertising, that was kept alive by the same means, and that employed clever salesmen and substantial citizens as canvassers from Sydney to Victoria.

Grant was solicited to buy Victory War Loan Bonds, and in the end he put $1,000 into this form of security; but it took some selling.

GRANT LEARNS ABOUT BONDS

Of course Grant knew of the words, "bonds" and "debentures," but if any one had catechised him on the subject of bonds, Grant would have made a sorry exhibition of ignorance.

The man that canvassed Grant had to show him a bond to get him to understand it. He showed Grant a double sheet, something in size corresponding to a double sheet of foolscap paper—rather larger. This folds up like a life insurance policy or mortgage document, and the face of the folded sheet has the appearance of the back of a dollar bill. That is, it is engraved after the manner of a dollar bill, and the sheet itself is a fine tough quality of paper, designed to last many years and to stand a good deal of handling.

When the bond or document is opened up, page two is found to be engraved very elaborately,—the same sort of engraving that one sees on a one, or two, or five-dollar bill. Printed on page two is the promise to repay to "bearer" (as a rule) the sum named in the bond (its denomination—$50, $100, $500, $1,000, or whatever the amount may be)—this repayment to be in gold, and on a stated date—at the end of 5, 10, 15, 20, 25, 30 or more years as the case may be. This stated date is called the "maturity" date of the bond.

A BOND IS A PROMISSORY NOTE

In effect a bond is just a promissory note, a promise to pay so many years after date the sum named in the bond, and to pay the interest yearly or half-yearly, as the case may be stated. (In the case of Victory Bonds the interest is payable half-yearly on the first days of June and December of each year.)

The rate of interest is printed in the bond—3%, 3½%, 4%, 4½%, 5%, 5½%, 6%. Not often does any bond promise to pay more than 6%. In the Victory Bond the rate of interest payable is 5½%.

WHAT IS SIGNIFIED BY "COUPONS"

Page 3 is a series of very diminutive cheques, measuring about 3½ or 4 inches by 1¼ or 1½ inches. They are called "coupons." The word "coupon" is French in origin and means "something to be cut off."

These coupons are all numbered and dated. The number on them corresponds with the number of the bond. This number is printed on, like the number on a bank-bill, in blue or red ink.

These coupons represent the interest to be paid on the bond. When the interest is due, you cut off the proper coupon (according to its date), and take it to a bank, and receive cash for it. Then when the next interest date comes around you repeat the procedure; and so on, year after year, until the last coupon has been cut off. Then the maturity date of the bond will have arrived, and you present the matured bond to the issuer of it, or to your bank as agent, and get cash for it—$50, $100, $500, and so on—whatever may be the bond's denomination.

The backs of the coupons resemble the back of a dollar bill—this in the matter of the engraved design.

BONDS ARE MORTGAGES

A bond is really a mortgage. The security behind it is usually a physical asset—land and plant, and equipment. The full mortgage of $100,000 or $500,000, or $1,000,000 or whatever the "issue" may be is divided up into small sums, usually of $100, $500 and $1,000, to facilitate selling.

The ordinary mortgages, the type farmers are familiar with, are in effect promissory notes—the promise of the mortgagor to repay at the end of a stated number of years the full sum borrowed, and to pay the specified interest at stated times, yearly or half yearly. On these interest-due dates the mortgagor usually arranges to meet the mortgagee to pay over the interest due. Frequently this matter is handled by one's lawyer, or through one's bank; but as a general thing in the case of farmers, it means a meeting of mortgagor and mortgagee by arrangement. Thus valuable time of both parties to the contract is taken; and probably money as well as time must be expended. So it becomes a rather costly matter for both parties to pay over and collect the interest. Not infrequently the borrower is not prompt, to the day, with his payment of interest and this may be vexatious and embarrassing to the lender.

By comparison the bond is far better because far simpler. No meeting of men is necessary, and no delay in paying the interest due is experienced. The whole matter is under the control of the owner of the bond; he clips off the coupon, presents it at his bank at his convenience, gets the cash, and that's the end of it.

It took some time to explain all this to Grant, but when he understood everything the proposal to own bonds took on attractiveness.

GRANT ASKS MANY QUESTIONS

Grant had many questions to ask. Being the very first transaction of the kind he had ever had, he needed much information. For example, he wanted answers to these questions:

What is the security behind these Victory Bonds?

Supposing I need my money before the maturity date of the bond, can I get it, and how?

Can I borrow money on bonds?

If the bond is destroyed by fire, or is stolen, what is the situation?

It was explained to Grant that the security behind Government bonds is exactly the same, no more and no less, as that behind a one or two-dollar bill. Every physical asset and every power to collect money from the people is the security of Victory Bonds. The whole property of every person in Canada is pledged to secure Victory Bonds. The security consists of all resources, developed and undeveloped, and all the assets of the Dominion of Canada. Grant was easily satisfied that Victory Bonds were a safe investment.

BONDS CAN BE SOLD EASILY

It was explained that if a bond owner wishes to sell his Victory Bonds, all he has to do is to take them to his bank, or a bond broker, and give instructions that

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Editorial

PLACE handier stable accommodation as a labor saver.

OLEO may do for some, but not for good farm children.

ANYWAY there's no politics in a Victory Bond. We've bought ours.

TRUSTING the people never resulted disastrously for democracy.

FARMERS would be well advised in securing all their feeding stuffs now.

NO ONE can take a fling at the farmer's patriotism. He is doing his bit.

DOING things for political effect is one of the curses of our political systems.

CONTENTED and prosperous farm homes are the best assurances of democracy.

WHY not put in some better equipment in the house or barns this winter? Make productive expenditures while the going is good.

FROM a purely business standpoint, every farmer will keep as many good breeding livestock as he can accommodate during the winter.

KEEP the dairy cow. Do not sacrific the herd yet. Things will be brighter and your rewards in patriotic endeavor and cash returns will be large.

A BRIGHT LIVESTOCK FUTURE.

IN a recent bulletin issued by T. B. Wood, M.A., Professor of Agriculture in the University of Cambridge, and a member of the Royal Society Food Committee, the modifications in Great Britain's food supply as rendered necessary by the war are discussed. His analysis shows that the diversion of foodstuffs to human consumption is going to make it impossible to sustain the feeding of livestock in Great Britain as heretofore. This policy will save tonnage by importing dressed meat instead of importing raw material. By thus diverting huge quantities of wheat and corn to human consumption millions of tons of freight can be saved.

What does this mean to the Canadian farmer? It means that the Allies are going to be increasingly dependent upon Canada and the United States for meat supplies. It also carries with it the meaning that the building up of the depleted British and French herds after the war will fall to the stockbreeders and farmers of America. Every farmer, then, who can read between the lines, will see very clearly ahead of him substantial prices for all the livestock he can produce. FARMERS' MAGAZINE has no hesitancy, then, in recommending to its readers the breeding of all the sheep, sows, cattle and good heavy draft mares that they can take care of.

PROGRESSIVE WORK BY FARM WOMEN

THE forward movement of women's interests in rural Canada has been well shown in the features dealt with in the recent conventions of Women's Institutes, Homemakers' Clubs, and other rural women's organizations from the West to New Brunswick. The welfare of the children of the country seems to have first place, and through medical inspection of the schools some surprising facts have been discovered. For example, out of twenty schools examined in a good farming district the lighting was good in only two; in fourteen the seating arrangements were so bad that forty-nine per cent. of the children showed the results in round shoulders, curved backs, hollow chests, etc. In only two of the twenty schools was the ventilation good. A feature which goes to show that these conditions exist in a rather superior community is that eighteen of the twenty schools were clean. The examination also showed fifteen per cent. of the children suffering from malnutrition, thirty-eight per cent. with defective vision, twenty-eight per cent. with nose and throat troubles, and seventy-one per cent. with defective teeth. When we remember that this is a record taken from one of the best sections of fine farms and good homes in Ontario, we can begin to appreciate the need of medical examination, and, if possible, a clinic for every school district in the country.

Another feature which shows that the women in the rural districts are not blind to the most urgent needs of the times is that, after careful discussion, the Ontario Women's Institute at their annual convention passed a resolution that wider education be given in the dangers of venereal diseases and that legislation be passed making it compulsory for infected persons to undergo treatment until cured, and that the Government add venereal diseases to the list of communicable diseases under the Public Health Act. Also that since feeble-mindedness and immorality have been shown to be closely interwoven, action be taken to segregate all feeble-minded children and adults, and that an appropriation be made for the extra building and equipment required.

DRAINAGE ON FARMS.

PERHAPS there is no one improvement of soils that will more amply justify the initial expenditure than that of tile drainage. It is rarely that any field has to produce a third crop before the total costs of tiling, above ordinary returns of that field, are completely paid for. Tile drains carry off the excess water quickly and, besides drying the soil, do it so quickly in the spring time that farmers are able to get out upon the land so much earlier that grain crops get the good start so necessary to a successful harvest. An increase of 10 bushels of wheat to the acre means $20 added to each acre's returns in one year.

Prof. W. H. Day, of Guelph, recently addressed the Engineers' Club in Toronto, at which the scientific reasons for soil drainage were explained. An important point often overlooked in draining is the increase of bacterial life in a drained soil which is necessary in making plant food available. Every farmer who possibly can do so should seek to have a ditcher at work on his farm next year and to lay as many tiles as possible. The future of agriculture is such that every farm should be ready to develop its resources to the maximum now and during the coming decade.

PRICE GUARANTEES.

IN the recent bacon-hog controversies, FARMERS' MAGAZINE, as well as the editor personally, has been contending for a minimum price guarantee for hogs to the farmer if the country was in earnest about hog production. We contended that, while the method was not as perfect as one would like, it had the merit of getting results quickly. Munition makers got delivery of goods by fixing a price for the product, and why bacon producers should be denied a price for finished hogs is not made clear to many farmers.

Some farmers feared that, in guaranteeing a price of $12 or $15, as the case might be, the price would immediately descend to this figure and the city consumer voice his complaints still more loudly about so-called farm profits. Recent happenings in Chicago, where the $15.50 minimum was suggested by Hoover, defeat this latter argument. In spite of a temporary drop in price, the price of hogs now is back again and going up to the point where demand places them in order to rush up the supplies. We still believe that if the government had exhibited its faith in a guarantee the returns from agriculture would have been greater immediately, and the feeling and morale of the producers in better condition.

DISCREDITING THE FARMER.

THERE seems to be a world-wide effort to abuse and discredit the farmer. In every country there are those who seem to thrive on these slanders. The farmer has been called a slacker and a profiteer—a coward and a miser. Many city people in Canada, where wide fields and clear visions should rule, have talked glibly of the situation without one iota of justification for their diatribes. In England, Lloyd George, the Prime Minister, has publicly denounced these traducers. In a recent speech to the English farmers, he said:

"I need hardly say that not only have I no sympathy with the abuse which has been poured upon the farmer, but I deprecate it in the strongest possible manner. It is mischievous to the last degree, and it is not true. After all, those people who have been delivering these ill-considered and pernicious attacks do not realize the precariousness of the farmer's business. * * * * Instead of attacking the farmer, I think that pure justice demands that there should be a recognition on the part of the community, and I now give it as the head of the Government—a recognition which amounts to gratitude to the farmer—for the way in which he has put his sturdy back into the business, and helped us to retrieve what was undoubtedly a rather dismal position. I thank him from the bottom of my heart on behalf of the Government of this country—and I venture to say that I am speaking the minds of the vast majority of the people in this country for his help in saving the situation."

The same thing can be said just as strongly of the Canadian farmer. He has risen to his country's need in a way that commands respect from every right-thinking individual. There is perhaps more sanity in the present situation exhibited by the farmer than by any other class of our people. The farmers are suffering in flesh and blood, as well as the other man, and are at the same time meeting the hard manual labor demanded in a way that should command every respect.

THE FARMER AND THE ELECTION.

AN election is on. War times and election times are bad companions. It is regretable that such things coincide. But now that it is a question of fact it behooves every farm voter to keep his head. Intelligence is worth far more than prejudice. Common sense is more valuable than enthusiasm. The farmer must not be stampeded to do something in vituperation. He must weigh, as every good citizen must do, the whole question and vote as he sees the situation.

Wholesale branding by politicians of the other fellow as disloyal or unpatriotic must not be tolerated. We are all Canadians, each wanting the best that can be had for the country and for the Allied cause. There is no clear-cut vision given us in politics. It may seem so to many of us, but that is the point when our common sense should step in and grant to the other fellow some such honesty of purpose as we have ourselves. One thing is certain, the sober second thoughts of the people are not generally far astray. A democracy that does not trust its people is not a democracy—a bull wider than the Irish in its extent.

Trucking $75,000 a Year: By J. HUGH McKENNY

An Italian Came to Canada 20 Years Ago With $1,000 and Turns Up Something Worth While—How He Does It

BACK in the late 90's a young Italian decided to emulate the example of his illustrous countryman of a few centuries previous and seek in America a new field for his activities. Getting ahead amid the narrow confines of European congestion is not an inviting situation to a man of ambition; he needs more elbow room.

Such was the outlook that faced Pellegrino Del Sole. Being directly descended from a long line of market gardeners, the knowledge laboriously accumulated by generations of Del Soles was his principal asset. Nothing daunted, however, he left Naples with a steamer ticket for Montreal. Arriving at his destination, his total capital inventoried but $1,000 plus a strong physique and a good stock of common sense. That he had no acquaintance with either the English or the French language did not disturb him.

His first move was to rent ten acres of land in that part of Montreal known as Notre Dame de Grace. With $300 of his savings a year's rent was paid in advance. A similar deduction was made for horses, implements, fertilizer, seed, etc., and the balance, along with what credit was available to him went to pay the necessary living expenses.

That was eighteen years ago. To-day, he is reputed to be the largest market gardener in Canada. The intervening period, it must be acknowledged, has been pretty well crammed with a mixture of hustle and sound judgment. At Montreal West he owns ninety-nine acres, eighty-five of which are devoted to vegetable gardening and fourteen to an apple orchard. This not taking up all of his time and energy, four years ago he purchased at St. Hubert, about four miles from Montreal, one hundred and ninety-nine acres of ideal vegetable land. Of this, sixty-five acres are planted to vegetable crops, thirty-five to hay, forty to oats and the balance in young orchard. Here, he has expended $2,000 in building a private railway siding, besides installing his own telephone system connecting up the two places at a further expense of $500.

With so extensive an acreage from the standpoint of a market gardener, it would seem that intensive work would be out of the question. Yet, it has always been Mr. Del Sole's policy to push to the maximum both the quantity and the quality of his crops. He might very conveniently be catalogued as a wholesale and retail gardener, for he will supply his vegetables by the single bunch or by the carload, according to the requirements of his customers. The ability to do this means a steady market for his products the year round, and at good prices.

His average annual turnover he estimates at from $65,000 to $75,000. During the summer, about six loads a day find their way to the Bonsecours market, considerable quantities are shipped to Quebec, and carload lots are made from time to time to such points as Halifax, N.S., and St. John, N.B. Among his most reliable customers are the hotels and grocery stores that look to him to keep them regularly supplied, his capacity for doing this being equal to twenty average market gardeners. To meet this extensive demand, even with his large resources, it is necessary to keep a wide open eye on many things.

USES $6,000 IN FERTILIZERS

For instance, it is highly important that the fertility of his land be kept up to the highest possible degree. To accomplish this, he is a prodigious user of fertilizer, 70 to 75 tons to the acre being the common application. On both farms this element of expense mounts up to $6,000 a year.

His method of cultivation is interesting. When a new piece of land is brought into the active business of vegetable growing it is first heavily manured and plowed six inches deep, the second year eight inches deep and thereafter twelve inches deep. He claims that, until the land is thoroughly enriched, the shallower the root system is kept the better the growth.

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Breeding a Laying Strain

Simple, Common-Sense Rules That Bring Cheering Results to Poultry Men—Trap Nests a Necessity

By LEWIS N. CLARK

An interior view of Clark's Leghorn Laying Pen.

Lewis N. Clark, one of the most successful poultry farmers of Canada, has volunteered his services, without salary, to conduct an investigation for the Food Controller's office into the poultry situation. The Food Controller is sending a list of questions to representative poultrymen to secure the information required, and the returns will be compiled by Mr. Clark. Such questions as the cost of producing eggs and poultry and the cost of feeding will be studied. This article is one of Clark's best, and should be preserved for reference.—EDITORS.

MANY of the teachers of the science of poultry breeding weave so much mystery around and about the pure and simple facts of breeding, and use so many long and abstruse terms in their teachings, that the average poultryman feels that it must be a matter beyond his ken altogether and gives up all attempt to carry on the systematic and common-sense breeding of his strain. The statement that the breeding of poultry is a simple and easy thing would be absurd—in fact the more one finds out about it, the more hopeless it seems to master all the queer tricks and unexpected performances that nature springs on the breeder—*but many of the rules of breeding are so simple and so common-sense, and the following of these rules brings such splendid and cheering results, that it seems a pity that more poultry breeders do not give them a chance.*

The one outstanding characteristic of the hen is, of course, her ability to lay from five to ten times the number of eggs that nature intended her to lay in her wild state, and to lay these eggs in winter, when it is quite unnatural for her to lay them at any time but the spring. The necessary thing, then, in successful poultry work, is to breed the hen so that her hereditary instincts are to lay many eggs, and many of these in the winter, and then to fool her into laying even more. I strongly believe that the latter has more to do with the former than is generally admitted. We all realize that environment, as it is called, has much to do with the development of the individual, and we all know that the characteristics that a certain environment give to an individual or a strain are in time transmitted to the offspring of that individual or strain. The point that I wish to make is that if hens are kept in conditions that will give a heavy egg-production, heavy winter egg-production, constitutional vigor, and all the other desirable qualities, for a long enough time, these desirable qualities will in time *become hereditary characteristics.* With this point once grasped, the whole problem of successful poultry breeding becomes simplified.

WHY PULLETS FAIL AS BREEDERS

Probably everyone who is seriously attempting to breed a good strain of poultry has the one object in view, namely, greater egg-production, and a danger of the most serious nature is constantly before every such man. This danger is the possibility of giving too much attention to the main object of the number of eggs produced, and overlooking the almost certain consequences of this heavy production, which is an increasing weakness in the stamina of his strain. The chief reason of this danger is that the breeder is so keenly interested that he wants to see results as soon as possible, and so tries to breed from his record hens at the end of their pullet year as soon as they have completed a winter of heavy drain on their strength and stamina. It is for this reason, and not because I think a "pullet" a year old too young to breed from, that I say it is a serious mistake to breed under any circumstances from a hen when just one year old, or ten or eleven months old. A pullet that has laid *poorly* all winter will give just as strong, vigorous eggs and chicks as the oldest hen, but it is not from the poor layer that one wants to breed, and a pullet that has laid, perhaps, 120 or 130 eggs in the five winter months, and so is the very bird one wants to use, is not in fit shape to breed from. Her eggs may hatch well, and her chicks may seem healthy and strong, but after a very few years of such practice the end of such a strain will come with a crash. By keeping these heavy winter producers over the next year, and making them loaf through their second winter, their offspring are sturdy and hardy and at the same time they transmit to them the desirable heavy production characteristic.

With the breeding of the White Leghorn (the breed in which I am chiefly interested because I believe it is the only breed that can be made to show a profit with feed at its present abnormal price) there are two other qualities that we are always working for, making four principal hereditary characteristics to be striven for, namely, *heavy winter production* (and this means heavy all-the-year-through production); *constitutional vigor* (which means good health, immunity from disease and an active, vigorous nature); *size of body*, and *size of egg.* I need not point out that it is the winter eggs that are most valuable, and that are the most difficult to get, and so it is winter production that we are most anxious to fix in the strain, but besides this it has been proved to my complete satisfaction that in every case, except where ill-health or accident intervenes, heavy winter production means heavy all-the-year production, and a hen that can make a record of 120 eggs or better in the five winter months will make a record of far over 200 eggs in the year. For this reason, Oldham Farm originated in 1914 the method of "winter records," and it is expected that in time all breeders of "bred-to-lay" poultry will follow.

For any attempt at the scientific building up of such a strain trap-nests seem to be almost imperative. Every other method of selection must have such a large element of chance in it that it is almost useless. A man who has a great deal of experience with poultry, and who has time to spend much time among a flock can certainly make a guess at the hens that are producing the most eggs in the winter, and can choose these hens at any time during the year by certain well known signs, but on the whole the trap-nest is the only method which will give positive results. By careful selection and with an understanding of the appearance and

Continued on page 73.

LEWIS CLARK'S EXPERIENCE APHORISMS

To sum up in a few words the safest and most successful methods of breeding a "heavy laying strain," as I see the matter:—

If possible, trap nest all your pullets through their first winter.

Breed only from those showing a high winter record, if possible using only hens that have laid on an average three days out of every four during the five fall and winter months.

Breed from only such of these hens as conform in all particulars to the other qualifications mentioned, and that have shown no signs during the first two years of their life of the slightest weakness or tendency to any disease, besides which use as far as possible the most active birds—those that seem to be "most alive."

Never use a heavy producing hen as a breeder until she is two years old, thus having had a winter of comparative rest before putting her into the breeding-pen.

When using your own male birds, use cockerels on two-year-old hens, and make sure that there is not the slightest weakness of any kind in the blood of these birds. Of course use the sons of the very heaviest producing hens you have

In going out for new blood for your male birds, buy hens with known records and strain, mate them to one of your own best cockerels, and use the sons of this mating the following year to head your pens.

See that the breeding stock, before putting into the breeding-pens, as well as during the hatching season, gets an abundance of exercise and an abundance of green feed

An Appeal to the Organized Farmers of Canada

For years, **you, the organized farmers of Canada,** have been fighting for great national reforms. As yet you have obtained but few of them. **Nor does the Union Government and its condidates offer to grant you any of them.** Everything must be postponed until after the war. In the meantime **the interests which grow rich at the expense of the common people** are to be allowed to retain their special privileges undisturbed. **Do you approve of such a policy?**

FARMERS BE CONSISTENT

No more patriotic action can be taken, in this time of the country's need, than to increase production and reduce the high cost of living **by lifting the burdens off the common people.** Should we fail to do this we will be unable to support the boys at the front as we must **if this war is to be speedily won.** In the Farmers' National platform, adopted last November by the Canadian Council of Agriculture, and later by the various provincial farmers' organizations, including the United Farmers of Ontario, these points were considered and certain definite reforms were demanded. The Liberal Party, if elected to power, has pledged itself to give you these reforms. Note once more the requests which you have made and which **Sir Wilfrid Laurier, if elected to power, has promised to grant.**

WHAT THE ORGANIZED FARMERS ASKED FOR.

1. **"That agricultural implements, farm machinery, vehicles, fertilizers, coal, lumber, cement, illuminating fuel and lubricating oils be placed on the free list."**

2. **"Be it resolved that as means of bringing about much-needed reforms, and at the same time reducing the high cost of living, now proving such a burden on the people of Canada we urge that our tariff laws should be amended as follows:—**

   "That the Customs tax on all the necessities of life be materially reduced."

3. **"By reducing the customs duty on goods imported from Great Britain to one-half the rates charged under the general tariff, and that further gradual, uniform reductions be made in the remaining tariff on British imports that will ensure complete free trade between Great Britain and Canada in five years."**

CONSCRIPTION.

4. **At the last annual convention of the United Farmers of Ontario the following resolution was passed: "Since human life is more valuable than gold, this convention most solemnly protests against any proposal looking to the conscription of men for battle while leaving wealth exempt from the same measure of enforced service. It is a manifest and glaring injustice that Canadian mothers should be compelled to surrender boys around whom their dearest hopes in life are centred, while plutocrats, fattening on special privileges and war business, are left in undisturbed possession of their riches."**

WHAT THE LIBERAL PARTY PLEDGES ITSELF TO GIVE.

1. **"In the mitigation of disadvantages to agricultural production, I would immediately remove the duties on agricultural implements and other essentials as demanded by the farmers". From Sir Wilfrid Laurier's manifesto.**

2. **"No measure to reduce the cost of living can be effective unless and until the tariff is reformed and its pressure removed from those commodities in which there are 'excessive profits,' 'hoardings' and 'combinations for the increase of prices.' A general well-considered reform of the tariff, for the purpose of helping Canadian production and relieving the Canadian consumer would be an object of my administration." From Sir Wilfrid Laurier's manifesto.**

3. **"Since the commencement of the war the Government placed an increase of 7½ per cent. in our tariff on all commodities coming into Canada from outside Great Britain, and an increase of 5 per cent. on the goods coming from Great Britain. I would immediately remove those two disabilities as respects commodities from all countries other than those with which we are at war.**

   "The increased duty on imports from Great Britain was an unfriendly and unnecessary action on the part of Canada towards the Mother Country at a time when British trade was staggering under the disadvantages incidental to the war. It continues to bear unfairly and unduly on existing trade, and should be speedily removed." From Sir Wilfrid Laurier's manifesto.

CONSCRIPTION.

4. **"A fundamental objection to the Government's policy of conscription is that it conscripts human life only, and that it does not attempt to conscript wealth, resources, or the services of any persons other than those who come within the age limit prescribed by the Military Service Act. This is manifestly unjust. As to the present Military Service Act my policy will be not only to proceed farther under its provisions until the people have an opportunity to pronounce upon it by way of a referendum. I pledge myself to forthwith submit the act to the people, and with my followers to carry out the wishes of the majority of the nation as thus expressed." From Sir Wilfrid Laurier's manifesto.**

The Union Government and Increased Production

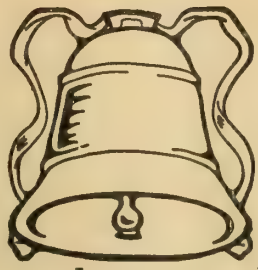
Since the outbreak of the war the Conservative Government and now the Union Government has been calling upon the farmers of Canada to increase the production of food products. At the same time it has made it difficult for them to do so by increasing the tariff 7½ per cent. on all the articles farmers must buy to enable them to increase production, such as seeds, fertilizers, agricultural implements, feeds, farm machinery and hundreds of other articles. This is unfair, unjust and unwise. On this point Sir Wilfrid Laurier says:—

"Believing that increased food production is one of Canada's best contributions towards winning the war, I would propose, if entrusted with the administration of the country to immediately relieve agriculture from its disabilities in this regard. Under existing conditions, these increases in the tariff are a hindrance rather than a help to increased production in Canada, while it is certain that in the final resort the consumer has to pay these extra taxes."

FARMERS! BE CONSISTENT. STAND BY YOUR OWN PLATFORM. SUPPORT THE MEN WHO PLEDGE THEMSELVES TO WORK FOR THOSE REFORMS FOR WHICH YOU HAVE ASKED.

VOTE FOR THE LIBERAL CANDIDATES

Christmas Gift-Making



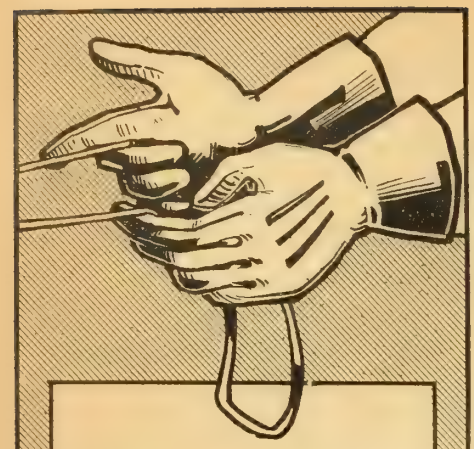
You---the reader of this message---will surely yield readily and fully to the impulse of Christmas: you will be a gift-maker to those nearest and dearest to you, those to whom you are indebted in the matter of good-will or of service given.

This year we shall give more because war has come close to all of us. Selfishness and self-indulgence are less in our eyes and lives than the desire to gladden the life and homes of others, especially those who have surrendered much---even the life of husband, father, son or brother---for dear Liberty's and Honor's sake. To all towards whom affection and sympathy turn us, we shall, when Christmas comes, surely send some token of good-will and regard.

What shall the gift be? Often the mind is sluggish in yielding happy suggestions.

In this Special Christmas Section of the FARMER'S MAGAZINE, and elsewhere in this issue, on certain pages, definite suggestions are offered. They will come as a ray of light to many perplexed would-be gift-makers. The suggestions are made by advertisers as is desirable; for so they are most helpful.

Choose your gifts this year with a thoughtfulness greater than usual, because the times are extraordinary, and call for well-chosen gifts. And give to many, rather than few, thus adding to the sum of the world's gladness—the truest gladness because sprung from good-will.



Christmas Gifts He'll Appreciate

You cannot give your Father, your Husband, or your Son a more useful gift than

CARHARTT GLOVES
—OR—
CARHARTT Safety First ALLOVERS

"Carhartt" Gloves are guaranteed to give satisfaction. They're made of selected leather and constructed to withstand the hard wear given them under all conditions.
There's a "Carhartt" Glove to fill every requirement where a strong glove is needed.

Carhartt Safety First Allovers

is a one-piece Work Suit, specially designed, cut and fitted for instant service. They are smart, roomy, wear-resisting, being made of highest quality material specially shrunk for these particular garments.

Ask your dealer for Carhartt Gloves and Allovers. If he cannot supply you, write to us direct.

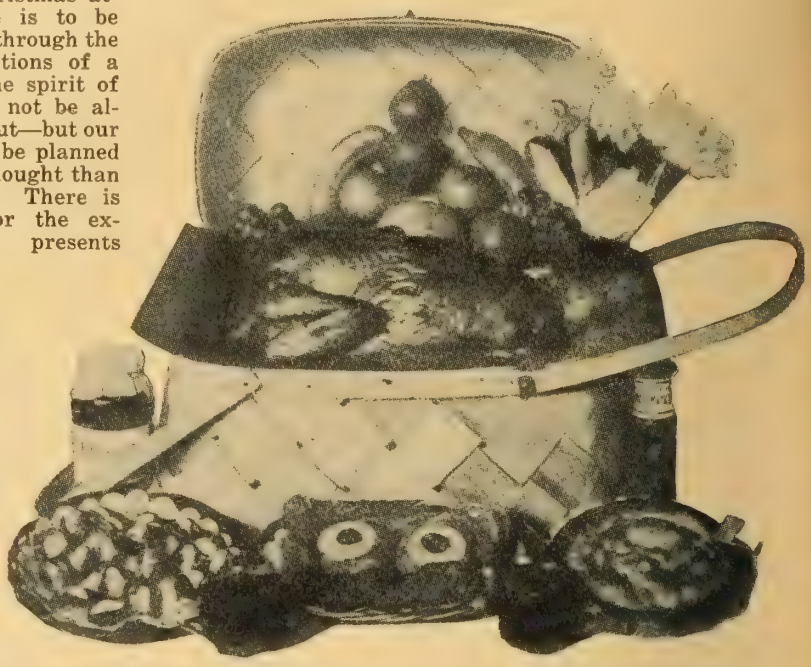
Hamilton Carhartt Cotton Mills, Ltd.
Toronto, Montreal, Winnipeg, Vancouver

Christmas Gift Suggestions

Generosity Is Needed More Than Ever, But Let Your Gifts Be Practical

By ETHYL MUNRO

IF the Christmas atmosphere is to be retained through the trying conditions of a war year, the spirit of giving must not be allowed to go out—but our giving must be planned with more thought than ever before. There is no place for the exchange of presents which has become a social obligation; the insincerity of this practice, alone, should be enough to bring us to the point of breaking off, and letting our gifts go where our hearts would like to lay down greater things, or where there is actual need of them. Quite as important, it is, that our giving be along practical lines. For the woman who is clever with her fingers, there is so much work to do for the soldiers, that hours spent in crocheting work bags and hair receivers seem scarcely worth while. Under present conditions, a pair of well-knitted grey socks is of far more vital national and human interest than a centrepiece of the finest eyelet embroidery.



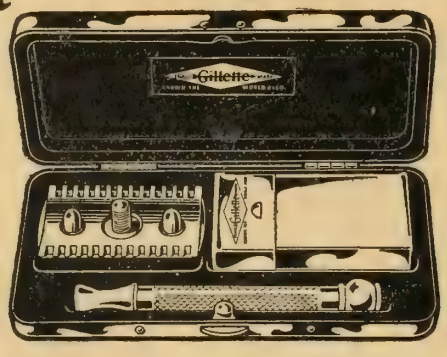
A hamper like this from the farm would be more than welcome to a city dweller, or to a family where the necessaries of life are limited.

GIFTS FOR SOLDIERS.

Most of the Christmas boxes packed for the trenches will be on their way before the first of December. There might still be time, however, to get parcels to France and England before the New Year. These will no doubt contain the usual Christmas "eats" — fruit cake, shortbread, raisins, nuts, home-made candy, etc. Individual mince pies wrapped in waxed paper can be shipped very well, and are sure to find favor with the boys. We may not feel that we can afford to use mince pie at home much this winter, but if there is to be any extravagance in our foods, it will be most pardonable in the foods we send to our soldiers. Another substantial delicacy which is very popular for a dug-out lunch, is fried tenderloin, ham or chicken. To prepare this, take a little stone jar or baking-powder can, cut the meat in slices small enough to go into the jar, fry it, and as you finish cooking one frying panful, put the meat in the jar, and pour the hot fat over it. Repeat this until the jar is filled, and make sure that it is well covered with fat. This makes a perfect seal for the meat. When cold, cover, and it will keep indefinitely. It is better, when preparing chicken for shipping, to remove the bones before frying.

Little Christmas cakes decorated with holly make acceptable gifts to people who live way from home.

A Very Merry Christmas



The business of being a man has its advantages these days as well as its responsibilities—especially if someone thinks enough about him, his needs and his wishes, to choose for his Christmas gift

The Gillette Safety Razor

Most men are practical. The WELCOME gift is the USEFUL gift—the Gillette—that fits right into a man's intimate personal life, makes things easier for him, and proves its quality by the way it shaves.

At any good Hardware, Drug or Jewelry Store you can pick out a Gillette Set that will be sure to give him lasting pleasure. If you have any trouble getting what you want, write us and we will see that you are supplied.

GILLETTE SAFETY RAZOR CO. of CANADA,
LIMITED

Office and Factory, Gillette Bldg. - - MONTREAL

MADE IN CANADA

TRADE Gillette MARK

KNOWN THE WORLD OVER

CASH —OR— CREDIT

Genuine Diamonds

The Best Gift of All

NOTHING gives so much pleasure or has such lasting value as a gift of a Diamond or something in Diamonds. Our Diamonds are of the finest quality, full of life and fire.

SAVE MONEY

SAVE MONEY by dealing with us. We are Diamond Importers, and can give you every advantage in price—no middleman profits. Our terms are easy and reasonable. We allow a Special Discount of 10% for cash. We guarantee our Diamonds. Write to-day for our illustrated catalogue and make your own selection. Satisfaction assured. We send Diamonds to any part of Canada for inspection at our expense. Payments to be made weekly or monthly.

JACOBS BROTHERS
Diamond Importers
Dept. B, 15 Toronto Arcade
TORONTO, CANADA

When Peace Comes

Will you be prepared for the chaotic business conditions which may exist during the period of industrial readjustment after the close of the war?

With a substantial cash reserve and a practical training in a profession generally little affected by periods of depression, you can face any situation which may then arise, without dismay.

There is a way to accomplish this NOW in your spare time.

—and it's worth knowing. For full particulars write TO-DAY.

Department A

The MacLean Publishing Company
Limited
143-153 University Ave., TORONTO

Apart from the "eats" which will naturally make up the larger part of the soldiers' Christmas boxes, there are a number of articles which go a considerable way in relieving the discomfort of trench life. Socks, sweaters, scarfs, and any of the knitted goods approved by the Red Cross authorities or suggested by the men themselves, are among the most practical gifts. Rubber sheets and rubber boots will mean hours of comparative comfort, particularly at this season. Soap, shaving soap, razors, towels, liquid court plaster, and talcum powder are always welcome. Writing paper, indelible pencils, fountain pens and ink-pellets for fountain pens, might almost be classed among the necessaries, while extras like an electric flashlight, cigars, and books will help very materially in tiding over a time which will necessarily be troubled more or less with homesickness. As at all times of the year, see that the boys are well supplied with

By potting a geranium, hyacinth, or Chinese lily and bringing it into bloom by Christmas, you have a pleasing gift for any home.

reading matter, both in the way of magazines and books of an entertaining, rather than a heavy, nature.

Even if it is too late for parcels to reach their destination overseas before Christmas, there are many young men still with us who will soon be leaving for military training camps. Any gifts in the way of soldier's comforts will be appreciated by them more than the softer luxuries of civilian life. In addition to the articles already mentioned, wrist-watches, military belts, etc., will be especially suitable.

MAKE FAMILY GIFTS PRACTICAL.

When it comes to planning gifts for our own family, we cannot be too careful to see that only the really practical things are bought. If Mary has been wanting a new sweater for weeks back, make it a Christmas gift; she will appreciate it more than a dozen unnecessary things you might think of. Perhaps Bob will need rubber boots before the winter is over; he will be glad to find them beside his stockings on Christmas morning. This doesn't mean that all toys and things that the youngsters' hearts have longed for should be denied them because this is a war year. A sled, or a pair of skates, may mean a great deal toward a child's health; an engine or a kit of tools or a doll or a set of dishes may be a valuable means of education. Anyway, it is the saddest kind of saving to rob a child of its

Continued on page 57.

Why I'm For Advertising

By GEORGE W. PERKINS

GEORGE W. PERKINS

THE MORE I see of advertising the more I am for it.

The institutions with which I have been connected during the past twenty-five years have spent millions of dollars to inform the people upon matters of importance concerning their affairs.

For years it was the policy of these corporations to ignore the public's right of a more intimate knowledge of their affairs.

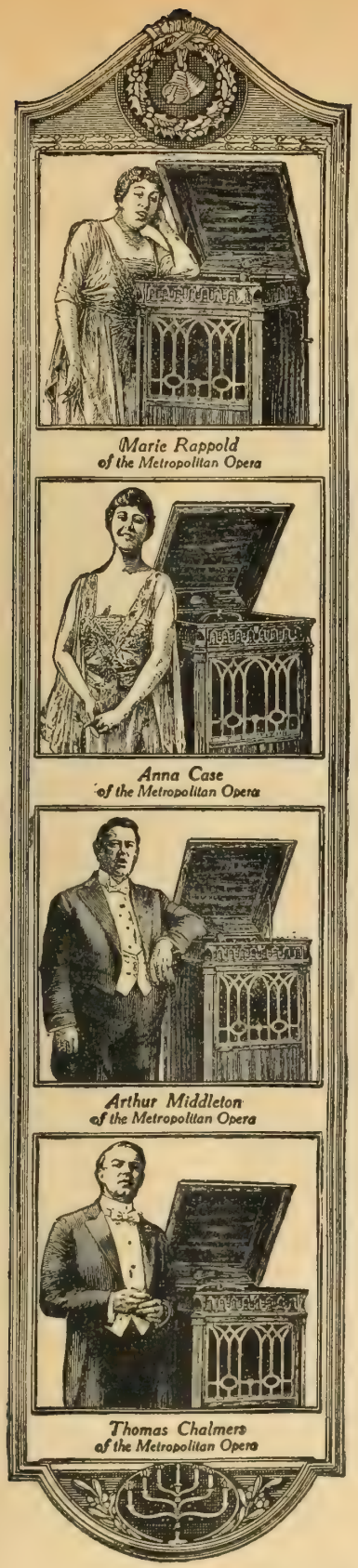
Recently the United States Steel Corporation gave $100,000 to the war fund of the Y.M.C.A. and the fact was made public without the slightest hesitation. The stockholders approved it. This indicates the change that has taken place in the attitude of great business institutions toward publicity.

If Congress years ago had enacted a publicity law instead of the Sherman Anti-trust measure we would be much further along in settling the problems affecting the relations between capital and labor than we are at present.

Publicity would accomplish what the Sherman law does not —abolish false prospectuses, over-capitalization and stock watering.

Full and complete publicity would practically do away with these and kindred bad practices and crimes which are constantly recurring and for which the public has no redress at present.

I stand for and believe in publicity—full, frank and complete.



Your Christmas Guests

—And What Their Presence Means in Your Home.

WHAT a glorious Christmas it would be, if you could have Anna Case and Marie Rappold, Thomas Chalmers and Arthur Middleton, as your Yuletide guests—to spend the holiday season right in your own home—and sing for you, whenever you wish!

Thanks to the genius of Thomas A. Edison, you can have the enjoyment of their voices, not only for Christmas but for all the days to come.

The NEW EDISON

"The Phonograph with a Soul"

reproduces the human voice with such fidelity and accuracy that no human ear can detect a shade of difference between the living artists and The New Edison Re-Creation of their voices.

Before hundreds of audiences, have been conducted the famous "tone test," in which the artist sings alone, then suddenly stops, leaving The New Edison to continue the song. Thirty different artists have made the test, before more than a million people. And not one of this vast audience has been able to tell, except by watching the singer's lips, when the voice stopped and The New Edison began.

As a Christmas gift, what could equal this wonderful instrument? It means a richer, fuller life — a permanent pass to theatre and opera house—an introduction to all the music of all the world.

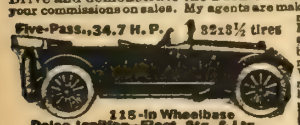
There is an Edison dealer in your vicinity.

Write for the elegant brochure, "Music's Re-Creation," and the convincing booklet, "What The Critics Say." 124

THOS. A. EDISON, INC., ORANGE, N. J.

Driver Agents Wanted

Drive and demonstrate the Bush Car. Pay for it out of your commissions on sales. My agents are making money. Shipments are prompt. Bush Cars guaranteed or money back. 1918 models ready. Write at once for my 48-page catalog and all particulars. Address J. A. Bush, Pres. Dept. 12EQ



BUSH MOTOR COMPANY, Bush Temple, Chicago, Illinois

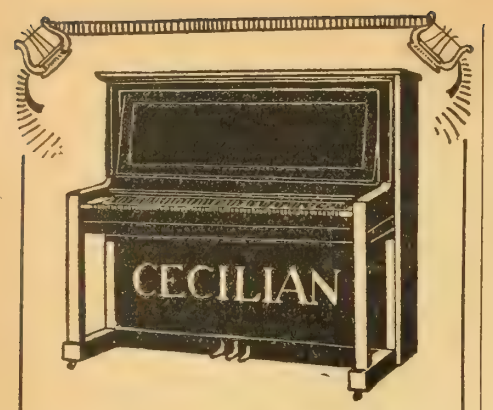
ST. MARGARET'S COLLEGE TORONTO CANADA

A Residential and Day School for Girls

Full Academic Course from Preparatory to Honor Matriculation.

Music Art Household Science Physical Education Games Swimming

MRS. GEORGE DICKSON, President — Calendar sent on application — MISS J. E. MACDONALD, Principal



Music is a big factor in your daughter's happiness

—and brightens up *your* home

You cannot give her a Christmas Gift that she'll appreciate more or do her more good than—

The World Famous

CECILIAN PIANO

The Cecilian Piano is the centre of attraction in countless numbers of happy homes in all parts of the civilized globe.

Cecilian Upright Pianos are all convertible into self-players at your convenience, while the Cecilian all metal action player pianos are the world's standard.

You will find it is not an expensive matter to enjoy the delights and advantages of a Cecilian in *your* home. Write us to-day for catalogue and terms so that you will be able to get your Cecilian delivered in good time for Christmas.

The

Cecilian Co., Ltd.

247 Yonge St., TORONTO

Music in the Home

This department is opened in order to give some prominence to what has come to constitute a large part of our rural homes—music. No house is complete without some form of music and music is confined to no form or to no instrument. The joys of song, the beauty of the human voice, the music of children, the divers instruments that furnish sweet sounds, all soothe as well as write the histories of our national joys and woes. In ancient times we read that the wine press was trodden and the vintage which closed the harvest, was gathered with a song. The farm home of Canada that carries no music in it, is either deserted or brewing discontent.—Editor.

God send you back to me.

SONG.

Words by DOUGLAS FURBER.

Music by EMMETT ADAMS.

REFRAIN

Grandioso.

f

God send you back to me O - ver the migh - ty sea.

Dear - est, I want you near.

poco accel.

f a tempo *dim.* *ten.*

God dwells a - bove you, Knows how I love you,

f a tempo *dim.*

He will bring you back to me!

ff *accel.* *fff*

Copyright, 1916.

Favorite Songs

By MAX McD.

IT may seem like repeating an oft-told tale to recall the incidents of well-known songs for which the world has so long shown reverence and reared monuments. But it is well from time to time to brush off the dust and cobwebs that gather upon the fading records, and bestow a few flowers and tokens upon honored graves. There are times when we all yearn for the old familiar songs that go right to the heart.

Any person who has given any thought to the subject must have been struck with the decadence of popular songs of the present day as compared with those of several years ago.

"Time was when a mother blessed the day
That gave to her an angel in the form
of Nellie Gray."

Although we are not so incontrollably moved by gratitude to the lyricist as was that mother, we can sympathize more deeply with her if we stop to consider the words that are nowadays embellished by popular tunes and foisted upon a too complacent public by enterprising publishers of music. At least Nellie Gray was an innocent maiden, fit to dwell in a "cottage lowly," beside which a "weeping willow grew." Not so much can be justly said of the majority of our modern lyric heroines. The new woman — musically speaking — is a "Great Big Beautiful Doll," with eyes that won't behave and manners that bespeak a giddy knowledge of the world. The general morale of modern songs has descended several steps. In trying to be clever the writers have degenerated to foolishness and downright coarseness. They flaunt the double meaning too boldly for even questionable taste.

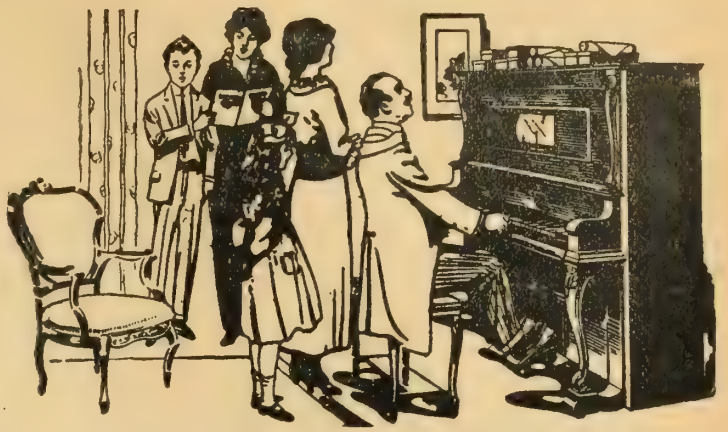
Frequently we still hear Foster's negro melodies and Glover's romantic ballads, because they have some of the red blood of humanity, but these frivolous compositions that publishers exploit in a mistaken belief in their commercial value, shrivel like mushrooms, because they don't contain a worthy human sentiment.

OLD FOLK SONGS

The author of "Old Black Joe" was Stephen Collins Foster, who also wrote "Swanee River," "My Old Kentucky Home," "Old Uncle Ned," "We are Coming Father Abraham," "Massa's in de Cold, Cold Ground," "O Susanna, Don't You Cry," and "Hard Times Come Again No More"—the most popular American folk songs. He was born near Pittsburgh on July 4th, 1826. When only seven years old he went into a shop one day and picked up a flageolet, the first instrument of the kind he had ever seen. In a few minutes he was able to play any simple tune. At thirteen he began writing songs, but it was three years later before his first song was published — "Open Thy Lattice, Beloved." "Hard Times" was published in 1854 and immediately caught on. "Uncle Ned" appeared in 1847. No American song writer has ever come so near to the heart of the people. None of these songs are likely to die. Why is it that coon songs come and go, but "Old Folks at Home," "Uncle Ned," and "Old Black Joe," remain? Is it not because they came out of a man's heart, and sing from the heart to the heart still.

Are they forgotten?—the old familiar songs. The music sellers say "No." They may have disappeared from the vaudeville

There is Another Side to You That Deserves Cultivation



There is something in life besides work and business. There is something in all of us which, if cultivated, broadens us and makes life more pleasant and makes us better men and women. That something is Music.

Music is to the soul as food is to the body. If you have never known the pleasure of personally producing music you have missed one of the greatest joys of life. When you can sit at the piano and make those keys which you thought would be forever silent to you—literally speak in a language which you enjoy, then and then only will you know what real pleasure means to you and your life. You will be carried above the worries of the day—your mind and body will relax and you will know what real rest and pleasure means to your condition for the work of to-morrow.

No longer need you be robbed of the pleasure of personally producing music. You can play the compositions of the greatest masters yourself on—

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The bringing into your home of a Newcombe Piano means more than the acquisition of a beautiful piece of furniture. It means adding to your family circle a new soul—the soul of harmony—the one influence that can more than any other draw your family together. You couldn't conceive of a grander Christmas gift or one whose grateful influence would extend so far beyond the Gift Season.

If there is no one in your home who plays, there is the Newcombe Player Piano, which anyone can play without study and with delightful effect.

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and popular concert stage, and have been supplanted by the rapid fire succession of temporary hits, but forgotten they have not been. They still are sung in parlor and best room, and by many a fireside.

Go into a music store and ask for "Marguerite." The salesman doesn't have to whistle up to the stock room for it. It may not be on the sales counter, but all he has to do is to turn to a near-by shelf, and there it is. That doesn't look much like as if it had been forgotten. And the same is true of many a song that no longer comes over the footlights.

"HOME, SWEET HOME"

The one characteristic of songs that live on from generation to generation is that they must appeal in a direct, simple, spontaneous way to common human sympathy —love of home, mother, or country. It is a common belief that what is called classical music has had a greater influence on men than the simple tunes and melodies. This is not so. The greatest effect on the world through music has been made by simple songs and hymns. On the evening of May 8th, 1823—ninety years ago—at the Theatre Royal, Covent Garden, London, Maria Tree first sang a song which, though simple, thrilled the audience, and has since re-echoed in every heart of the English-speaking race. It was a plain little poem by a homesick American, set to music by a very ordinary musician. Yet millions of songs have since been written, thousands of orchestral scores composed, and tons of these either sold or burned as waste paper, while for over ninety years one simple, unpretentious song has lived and still lives to soothe and cheer the homesick wanderer, or put its benison on those who are happy in their own homes. I refer to "Home, Sweet Home." It is really the first thoroughly popular song written. It belongs to all times and all people.

John Howard Payne, becoming an orphan at the age of thirteen, developed into a wandering actor, and from that time he never knew what it was to have a home. One cold, dreary day in October of 1822, when he was 31 years of age, he was alone in a foreign country stranded, and living in a garret in Paris. In that moment of keen distress and heart sickness, with the tears falling like rain upon his paper, his inner eye bounded across the ocean and he saw again his childhood home, nestled under the trees, close to the hill, with the cheery blaze of the hearth, his loving mother singing lightheartedly while preparing the evening meal, and his father affectionately holding him on his knee while assisting in his school-boy tasks. With this panorama of his childhood flitting before him, he indited that exquisitely expressive song, "Home, Sweet Home."

"AFTER THE BALL"

"After the Ball" was written at the request of a friend who wanted something to sing at a semi-professional entertainment. As this was to take place within a few days, the friend wanted it quickly. Charles K. Harris had not, up to that time, made a great success with any of his songs, but his friends regarded him as a young genius who could knock off a song to order in no time. The day his friend came to him, however, Mr. Harris was tired. He had been at a dance the night before and didn't feel up to the mark. Consequently when he was asked if he would have a song ready, his answer was, "Don't ask me now, 'Doc.,' I'm so tired after the ball."

His friend had hardly gone when Mr. Harris found his words "after the ball" constantly recurring to him, and as they recurred he began to hear music with them. Before long he had his music amanuensis at his side, writing down bar after bar of a melody that Mr. Harris was whistling. That was the genesis of "After the Ball," and it is a good example of what a few bars of music and a little rhyme will do toward accelerating a young man into the rays of the popular limelight.

"THE BANKS OF THE WABASH"

To have a city named after them is not the lot of common mortals. Music composers, like artists, used to be named after cities. This was in the days of the old Italian painters and the old Italian composers of church music. Since then it has not happened often, if at all, to any of the composers of serious music. It is not recalled that there is a city rejoicing in the name of Hayden, Mozart, or Beethoven. But "way down in Indiana" there is a city named Dresser. It was named after the late Paul Dresser, when his great song hit, "On the Banks of the Wabash," was at the height of its popularity.

Paul Dresser was a wonder at writing words with the sentimental home association that never fails to touch the hearts of the people, and wedding those words to tuneful and appropriate music. Even if you never had seen the Wabash, but heard his song on the effect of the moonlight, "on the banks of the Wabash, far away," you longed to go there and look at the thing for yourself.

"DEARIE"

Many songs are simple, but have nothing else to recommend them. But the songs that are simple and carry must possess some merit peculiar to themselves or they would not last. If one was to analyze all the popular songs that ever were written he never could arrive at any set of rules for composing a popular song. It is that subtle quality of getting over the footlights and making an impression, brief or lasting, that makes a song popular for a short time or for ever. And it is their inability to get over the footlights that has made failures of many songs which, on paper, possess far more merits than those that have succeeded.

In any event, "Dearie" got over the footlights, and stayed over. Forgotten? Not at all. Ask any music dealer and he will tell you that its author and composer still should be making a comfortable living out of the royalties.

"Dearie" saw the light of day in Charles Dillingham's production of the musical farce, "Sergeant Brue," in which Frank Daniels was the star.

LINDSAY
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Complete with leather plush-lined case and fine bow.
This violin is an exact copy of a Bergonzzi violin in the collection of Count Cozlo. It is a very striking instrument; the lovely shades of color and softness of texture demand admiration. The back is in two pieces of maple, and the top of old spruce. The tone makes it an excellent violin for solo and concert use.

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Other Violins from $5 to $400. Send for complete list.

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"God send you back to me"

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We have secured the Canadian rights for this remarkable song. Get a copy from your music dealer, or send to us direct. Postpaid, 40c.

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Headquarters for general Music Supplies, Songs, Piano Music and Music for Violin, Organ, Choir and Chorus.

Frank Mutton, Salesman

and salesmanager of very brilliant record—has completely caught a point of view which we have been presenting for years and years, and latterly, most of all. This point of view is:

Men engaged earnestly in the affairs of business will and do find immense help and illumination from reading each week THE FINANCIAL POST OF CANADA

THEY get wheat sifted from the chaff. They get news and information about the things that really count in the conduct and movements of business and Canadian public affairs. They get a clear interpretation of news, events, happenings and factors that determine present and future developments. They read what big men have written or said about Canadian business and public affairs, and what exceedingly well-informed men glean about securities, markets, tendencies and other phases of business and investments; they read a commercial newspaper most interestingly written, admirably edited, sane and unpartizan. When a newspaper of this type and quality is available, the wonder is that any business executive or salesman or salesmanger tries to get along without it.

If we had written this letter ourselves, we could not have put it better:

Attention, Editor

Recently we sent you a subscription covering the delivery of "The Financial Post" to each of our Sales Agents and Salesmen throughout Canada. This was prompted by the fact, that in our opinion, your paper is the best barometer in Canada of what is going on in the different industries from one ocean to the other in this Country. Your paper contains information that is invaluable to any travelling representative of any firm.

Yours very truly,
F. E. MUTTON,
General Manager,
International Time Recording Company of Canada, Limited.
Toronto, Oct. 12, 1917.

Prior to his connection with International Time Recording Company, Mr. Mutton was Canadian manager of National Cash Register Co.

NO salesman or salesmanager can do his best work without knowing the kind of news which THE FINANCIAL POST exists to provide. Anything that multiplies a salesman's or salesmanager's knowledge and ability required in the selling of goods and in meeting buyers and customers is likely to be a cheap, cheap investment. Mr. Mutton was and is a success because he incorporated into himself and his organization outer forces of power. Read his letter again.

OUR POINT IS:

BUSINESS and salesmanagers can most profitably do what Mr. Mutton has done: Subscribe for a copy for each man able to use knowledge of current business and public affairs in Canada to increase sales, to buy wisely, to know when to extend or contract credit, and when to go slow or speed up production.

The Financial Post of Canada

.....1917

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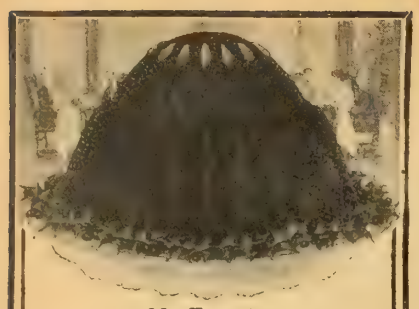

My Favorite Christmas Plum Pudding

Soak 1 envelope Knox Sparkling Gelatine in ¼ cup cold water 5 minutes. Put one pint milk in double boiler, add 1½ squares melted chocolate, and when scalding point is reached add 1 cup sugar, ¼ teaspoonful of salt and soaked Gelatine. Remove from fire and when mixture begins to thicken add ½ teaspoonful vanilla, 1 cup seeded raisins, ½ cup of dates or figs, ¼ cup sliced citron or nuts and ½ cup currants. Turn into mold first dipped in cold water and chill. Remove to serving dish and garnish with holly. Serve with whipped cream sweetened and flavored with vanilla.

My Dear Housewife:

Christmas-tide again and with it the happiest days of the year.

And the longest, too, for it begins before daylight "when Christmas candles shine and children shout and shake the laden branches of the Christmas tree."

When the Christmas dinner comes and at its close a good old-fashioned Knox Plum Pudding there is nothing more to be desired. I suppose you know the recipe. Thousand of housewives do, but I am printing it so that thousands of others may enjoy it this year and in the years to come.

In this somewhat personal way I pass along to you my favorite recipe and thank you for your maintained confidence in Knox Sparkling Gelatine throughout all these years. Extending to you the season's greetings, I am,

Very sincerely yours,

Mrs. Charles B. Knox.
President

FREE RECIPE BOOK
of Desserts, Salads and Xmas Candies sent for your grocer's name. If you have never used Knox Sparkling Gelatine enclose 4c for enough to make a dessert or salad.

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DARLING BROS., LIMITED
Montreal, P.Q.

:: THE MONTH'S RECIPES ::

ROAST FOWL, GIBLET GRAVY

Clean and singe a fowl, stuff and truss, dredge with flour and place in a roasting pan. Cover with thin slices of fat salt pork and bake in a slow oven for three hours, basting every fifteen minutes. Put into the pan the fat which was removed when cleaning and use this for basting. Dredge with flour twice while cooking. By keeping the roasting pan covered for the first two hours the fowl will be more tender. Leave it uncovered for the last hour to brown well. If cooked slowly the fowl will be as tender as a chicken.

Cover the giblets with water, simmer for one hour, and chop fine. Make a gravy in the pan, allowing four tablespoons each of fat and flour. When well blended add the water in which the giblets were cooked and enough boiling water to make two cups. Stir over the fire until well thickened, then season with salt and pepper and add the giblets.

POTATO STUFFING FOR ROAST GOOSE

2 cups hot mashed potato
1 cup stale bread crumbs
1 finely chopped onion
1½ teaspoons salt
1 teaspoon sage

Mix lightly and be careful not to pack solidly when stuffing the goose.

CELERY AND CRANBERRY SALAD.

1½ cups shredded celery
1 cup cranberries
½ cup walnut meats
3 tablespoons olive oil
1 tablespoon vinegar
Salt
Lettuce

Prick the cranberries with a darning needle to keep them from bursting, and cook in a little syrup made of equal parts of sugar and water. Shred the celery in two-inch lengths and let the pieces "curl" in cold water for two hours. Make a French dressing of the oil, vinegar and salt. Mix with the celery. Arrange nests of lettuce leaves, pile the celery on each, stud with the whole cranberries, and sprinkle the nuts chopped coarse, over the top. A boiled dressing may be substituted for the oil dressing, but it should not be poured over the salad until just before it is eaten.

ROAST STUFFED HEART

Wash a calf's heart, remove veins, arteries and clotted blood. Stuff with one cup stale bread crumbs mixed with two tablespoons melted dripping, one-quarter teaspoon salt, a dash of pepper, one tablespoon chopped onion, one-half teaspoon sage. Sew up the opening, sprinkle the heart with salt and pepper, roll in flour, and brown in hot fat in a frying pan over the fire. Place in a small, deep baking pan, half cover with boiling water, cover closely and bake slowly for two hours, basting every fifteen minutes. Remove the heart from the pan, thicken the liquor with flour, season with salt and pepper and pour around the heart before serving.

CHICKEN PIE

Use the remnants of cold roast fowl. Make stock by covering bones and leftover gravy with cold water and simmering for an hour or more. To three cups of stock add one-half onion chopped, two potatoes cut in half-inch cubes, one teaspoon salt, and a little pepper. Boil fifteen minutes. Thicken with one-half cup flour mixed to a paste with cold water. Put chicken in baking dish, add stock and potato, and cover with small baking powder biscuits, or with a crust of biscuit dough or with a a plain pastry crust. Bake in a hot oven until crust is done. Remnants of any roast fowl or meat may be made into a meat pie in this way.

CARROT PUDDING

1 cup grated carrot
1 cup grated potato
1 cup sugar
1 cup chopped suet
1 cup sultana raisins
1 cup currants
1½ cups flour
1 teaspoon cinnamon
¼ teaspoon cloves
½ teaspoon nutmeg
½ teaspoon mace
½ teaspoon salt
1 teaspoon baking soda
Juice of ½ lemon

Sift the soda and spices with the flour, add to the grated vegetables and suet and if necessary moisten with canned fruit juice, milk or water. Add the lemon juice last. Mix well and steam four hours.

FRENCH FRUIT PUDDING.

1 cup suet, chopped
1 cup molasses
1 cup sour milk
1½ teaspoons soda
1 teaspoon cinnamon
½ teaspoon cloves
½ teaspoon nutmeg
½ teaspoon mace
½ teaspoon salt
1¼ teaspoon raisins seeded and cut in pieces
¾ cup currants
2¾ cups flour

Add molasses and sour milk to suet; add two cups of flour mixed and sifted with soda, salt and spices; add fruit mixed with remaining flour. Turn into greased mould, cover and steam four hours. By adding enough flour to make a dough as stiff as fruit cake this may be boiled as a plum pudding.

LITTLE CHRISTMAS PUDDINGS

4 tablespoons molasses
¼ cup sugar
½ cup milk
½ teaspoon cinnamon
¼ teaspoon ginger
¼ teaspoon nutmeg
2 tablespoons orange peel
4 tablespoons butter
½ teaspoon soda
½ cup chopped dates
½ cup raisins
1¾ cup pastry flour

Mix and sift one cup of flour with the soda and spices. Add the remaining flour to the fruit. Melt the butter, add to the milk, stir this with the sugar and molasses, and gradually sift in the flour, soda and spices. Add the floured fruit,

pour into individual moulds and steam one and a half hours.

MINCE PIE WITHOUT MEAT

1½ cups chopped apples
¼ cup raisins seeded and chopped
¼ cup cranberries, chopped
¼ cup currants
1 tablespoon shredded citron peel
¼ cup suet
½ teaspoon salt
½ teaspoon cinnamon
½ teaspoon nutmeg
¼ teaspoon cloves
¾ cup sugar
¾ cup juice from canned fruit, or ½ cup water and ¼ vinegar from sweet pickles

Mix in order given and boil for about fifteen minutes. This quantity fills one very large or two small pies.

NUT BREAD

½ cup sugar
1 egg
2½ cups flour
4 teaspoons baking powder
½ teaspoon salt
1 scant cup milk
1 cup shelled walnuts
½ cup chopped dates

Beat the egg, add sugar and milk. Sift two cups of the flour with the salt and baking powder. Combine the two mixtures. Add the dates rolled in the remaining flour, and the nuts. Bake in greased pans or baking powder tins.

RAISIN CORN BREAD

1 cup sour milk
1 egg
1 tablespoon butter
1 teaspoon sugar
1 teaspoon salt
¾ teaspoon soda
1 teaspoon cream of tartar
1 cup flour
1 cup cornmeal
½ cup raisins

Mix together the milk, egg, sugar, melted butter and salt. Add flour, soda and cream of tartar sifted together. Stir in the cornmeal and raisins and bake in a moderate oven.

BRAN FRUIT GEMS

1 cup bran
1 cup white flour
¼ cup sugar
1 teaspoon salt
4 teaspoons baking powder
1 cup milk
1 egg
1 tablespoon melted butter
½ cup chopped dates

Mix and sift flour, baking powder and salt. Add bran. Mix sugar, milk, egg well beaten and melted shortening, and combine the two mixtures. Add dates rolled in flour and bake in greased gem pans in a hot oven.

OATMEAL MACAROONS

1 egg
½ cup sugar
1 tablespoon melted butter
1 cup rolled oats
1-3 cup shredded cocoanut
½ teaspoon salt

Beat egg until light, add other ingredients in order given, beat well and drop from spoon on greased pan. Bake about fifteen minutes in a moderate oven.

VEGETABLE CREAM CANDY

Boil a medium sized potato, and while warm, not boiling hot, mash with a fork or spoon, gradually working in confectioner's sugar until you get the consistency of a good cream candy. A large potato will

IT IS NECESSARY

THE GREATLY DECREASED PURCHASING POWER OF OUR INCOMES DEMANDS THAT WE CONCENTRATE OUR FOOD PURCHASES UPON SUBSTANCES OF HIGH FOOD VALUE.

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Handsomely bound in grey and gold the PURITY FLOUR COOK BOOK offers 180 pages of the latest tried information upon the preparation of all manner of nutritious dishes—from delicious and strength-giving soups to dainty, tasty desserts. A work from the pen of Miss E. Warner, Specialist on food preparation and Domestic Science Expert, and carries the approval of the famous Macdonald College, its text is in the easily understood and non-technical language of the home kitchen.

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WESTERN CANADA FLOUR MILLS COMPANY, LIMITED

TORONTO——WINNIPEG

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Preparation for the University and for the examinations of the Toronto Conservatory of Music.
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Voice culture will be in charge of a qualified mistress.

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Large Supply of Hog Feed Available

The farmers of Canada and the United States are asked to do their utmost to increase the production of hogs in order to relieve the critical situation in regard to the shortage of meat and fats in Great Britain, France and Italy, there being a shortage of 32,425,000 hogs in Europe.

Government Co-operation

The Dominion Government and the Provincial Governments are co-operating in every way possible to bring the gravity of the situation before the farmers of Canada and to safeguard the producers from loss in the undertaking.

Bran and Shorts

By licensing the Flour Mills, the Government allows a profit of but 25 cents a barrel on the flour only—the bran and the shorts are to be sold at cost, which ensures the farmer getting this feed at a moderate price.

Steps have also been taken to prevent the adulteration of bran and shorts.

United States Corn

The United States has the greatest corn crop in her history—more than 600,000,000 bushels in excess of 1916 and nearly 250,000,000 bushels more than the bumper crop of 1915. The United States will have a large surplus for export which will be available to Canadian producers.

Because of the shortage of the 1916 crop, and to prevent speculation, the United States has sold its corn under license.

The licensing system will not likely be used in connection with the 1917 crop which will be on the market about the middle of December, but the United States Government will exercise some form of control that will prevent speculation.

In the meantime, anyone in Canada can import American corn for any legitimate purpose, such as for feed, by obtaining a license. Application for license is made through the Canadian Food Controller.

World Shortage of Meat

The world shortage of meat indicates security as to the market. The depletion of the herds of animals in Europe is proceeding with increased rapidity, there now being 115,000,000 less animals in Europe than before the war.

Allies Killing Animals

On account of the scarcity of ocean tonnage the Allies are adopting the policy of slaughtering their animals to save the space on the ships occupied by the grain hitherto imported for feeding these animals. They prefer to import bacon rather than to produce it, because a given weight of bacon occupies very much less space on board ship than would be required to accommodate the grain it would be necessary to import for the production of hogs.

The Government of Canada is making arrangements to control the spread between the price received by the grower and the price paid by the consumer. The producer will be assured his fair share of the price paid by the consumer.

Bought Through One Channel

The buying of the meat for the Allies will all be done by the one Commission representing the Allies which will be an influence in stabilizing the market and preventing wide fluctuations in price.

The Allies are dependent upon Canada and the United States to save the meat situation in Europe. Many shops in Britain have no bacon at all for sale —and for some months past the rising price of bacon has been simultaneous with deterioration in quality, indicating an increasing and general scarcity of this commodity.

United States Committed

The United States has committed itself to increase its hog production by 25 per cent. in 1918.

The determination and fighting spirit of the heroic Canadian troops in Flanders is one example of what Canadians can do when called upon. The appeal is to Canada as well as to the United States to provide the boys in the trenches with their daily ration of ¼ lb. bacon per man, and to supply the women and children of Great Britain, France and Italy with the food they so urgently need.

SAVE THE YOUNG SOWS

Their progeny will be a vital factor in winning the war. A young sow slaughtered now will only produce about 150 lbs. of meat. One litter will yield many times that quantity.

Dominion of Canada Department of Agriculture

LIVE STOCK BRANCH
OTTAWA

13

take nearly two pounds of sugar. Work in any flavoring desired, shape like cream candies, and decorate with nut meats.

QUICK MINTS

1 cup sugar
½ cup boiling water
⅛ teaspoon cream of tartar
3 drops oil of peppermint.

Dissolve sugar and water, add cream of tartar and boil about five minutes or until mixture forms a soft ball when dropped in cold water. Beat until creamy, and drop from a teaspoon on greased plate.

TURKISH DELIGHT

1 box granulated gelatine
2-3 cup orange juice
1 cup boiling water
2 cups sugar
3 tablespoons lemon juice
Grated rind of one orange
½ cup chopped nut meats

Soak gelatine in orange juice five minutes. Dissolve in boiling water, add sugar and lemon juice and stir until sugar is dissolved. Boil twenty minutes, add orange rind, and when nearly cold add nuts and pour into a pan to the depth of about one inch. When set, cut in cubes and roll in confectioner's sugar.

FRUIT FUDGE

1 cup dates
1 cup raisins
1 cup walnut meats
Confectioner's sugar

Put fruit and nuts through the food chopper. Turn on a board dusted with confectioner's sugar, knead until well mixed, roll with rolling pin to about one-inch in thickness, cut in squares and roll in confectioner's sugar.

SALTED ALMONDS

1 cup almonds, shelled
1 tablespoon butter
1 teaspoon salt

Cover almonds with boiling water and let stand on back of range for ten minutes. Slip off the skins and allow them to get perfectly dry. Melt butter, add almonds and salt, spread in a dripping pan and bake in a slow oven for fifteen or twenty minutes, stirring occasionally. When prepared in this way nuts will keep crisp.

SALTED PEANUTS

Shell peanuts, pour on boiling water to blanch them, drain and let stand several hours to dry. Fry in olive oil or butter until a light brown. Turn on crumpled brown paper to dry, and sprinkle with salt.

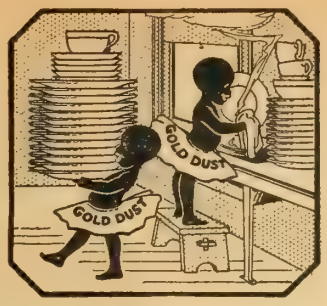
CANDIED ORANGE PEEL

Remove peel from four thin-skinned oranges, having it cut in quarters. Cover with cold water, bring to boiling point and cook slowly until soft. Drain, remove white part, and cut the yellow rind in strips, using scissors. Boil one-half cup water with one cup sugar until the syrup forms a thread when dropped from a spoon. Cook strips in syrup for five minutes, drain and coat with granulated sugar.

Well Irrigated

George was hampered by a mother whose idea of godliness was cleanliness. Notwithstanding the frequent baths to which he was condemned George thrived exceedingly. One day a neighbor remarked on his rapid growth.

"Yes," said George, "that's ma's fault; she waters me too much!"—*Tit-Bits.*



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DIRT sticks because it is held by grease. But cheer up! "Gold Dust dissolves the grease."

If you want to prove this why don't you try Gold Dust the next time you wash the dishes?

See if you aren't really surprised at the way Gold Dust fairly *slips* the grease off. See if the time saving doesn't gratify you.

Keep right on using Gold Dust wherever you find troublesome dirt. For example in scrubbing the kitchen floor, particularly around the range where some grease may have spilled.

In fact this is a good housekeeping rule: "Use Gold Dust for all dirt that you can't brush up or dust off." And Gold Dust is for sale everywhere in large and small packages.

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GOLD DUST

The Busy Cleaner

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The New Spirit of Christmas

By ETHEL M. CHAPMAN

THE road to the drab little town in the sheeplands was rough to the feet, the chill and dark of early winter settled in damply and the woman came with weariness and anxiety to the door of the tavern. The man who was with her made some earnest explanation to the landlord, but the landlord was unmoved. "The house is full, but you might make a place in the stable," he said. So Mary had a manger for the hour of her maternity. A star travelled overhead and touched the straw litter of the shed with gold, and rested above the young Child and His mother, but few people saw it; there was no noisy celebration. We have devised many ways of keeping the day since, but the spirit of the first Christmas was sacrifice.

It is well for us to remember that, this year, when many a woman wishes the day would hurry over, we have become so accustomed to Christmas as a time of reunions, of gathering about fires, of reviving old myths and playing over old traditions, and the loneliness and anxiety of the times seem as unnatural as they are cruel. Perhaps, after all, we have been getting away from the spirit of the day as it was in the beginning. We have been too comfortable all along to look far beneath the surface of things; we are too comfortable, even yet, to forget our personal losses in the larger suffering.

"The women of France are wonderful," the Relief Commissioner tells us, "the Belgian women are divine. Both smile and their heads are high, and there is not an empty face anywhere. You are wrong who think they want pity. They do not admit surrender — no, never — not even where the country has suffered the worst from an invading soldiery. Frequently the father and grown sons of a family have all been killed, but there are still the children and crippled and old people to care for and there is the driving necessity of trying to wrest from the depleted soil enough food to keep starvation at bay."

In England the women are as brave according to their necessity. A visitor tells of one charming home in southern England with all the characteristic refinement and simplicity of the English country home, where six years ago the children were being given every possible advantage that a moderate income could afford. At that time the boys were at home from school on a visit, two manly little chaps with splendid possibilities ahead of them. This year the visitor went back. The dining-room blinds were open. The mother sat at the head of the table dressed in black. The elder daughter was putting on the supper of bread and milk. She moved slowly; perhaps she was tired after a day's work in a munition factory, perhaps her heart was following her husband to whom she had been married only five days when he had to go back to the front. Servants were gone, and money. The father had fallen at Gallipoli. Two tablets in the village church told of the death of the two boys, who had been the pride of the family. The woman in black smiled at her daughters.

It seemed that everywhere in Europe women have discovered the surprising thing that all happines lies in service. What of things in Canada?

This year our soldiers will be spending Christmas in the mud of front line trenches, in damp dugouts and musty cellars. When they eagerly unwrap a newspaper to get the news from home and read of political dallying, of profiteering and luke-warm patriotism, they must have some doubts as to whether the game is worth while. It might be safe to say

A Father's Prayer

BY MARGARET WIDDEMER

LORD God, Who let Your Baby Son
Pass earthward where the joys were few,
To a hard death when all was done,
And very far away from You.

My little lad must go one day
Roads where I can not guide his feet,
Through dangers that I can not stay,
To griefs I can not help him meet.

He must hear voices calling him—
When youth is wild and life is warm
And right seems far away and dim—
To evil things and battle-storm.

Lord God, Whose Son went steadily
Down the hard road He had to tread,
Guard my son, too, that he may be
Strong through his hours of doubt and dread!

that more than one will long for a bullet to end it all. Everyone knows that not the least of the after-the-war "problems" will be the bitterness of the men who have lived through its tortures while others were indifferent. A year ago women could have said, "We had no part in passing this measure or permitting the neglect of that; they never asked us what we thought." This excuse has no meaning now. It has been claimed that when women were allowed to vote a new human element would come into the national viewpoint, yet we find women glibly pledging themselves to a party without any very serious consideration of principles. The big world movie is making its pictures fast. You don't grasp the meaning of one until another more puzzling crops up, but the world was never before in such need of people with a clear vision and the courage to follow it.

In other years these were not relevant subjects for Christmas time—there were sumptuous dinners and mistletoe, escapades and gay entertainments in keeping with the season, or with what we thought the season meant. We had lost its real symbolism, we had forgotten the majestic simplicity of the birth in the Bethlehem stable, just as even now, being removed from the actual suffering and horror of war, something of the spectacular in the new "war activities" of women catches the popular fancy. In the stricken countries of Europe the women do anything as a matter of course. No one cavils over whether it will spoil their femininity. In England five million women of every class have taken the place of as many men in the country's industries. In France the women who drive motor ambulances and help with the wounded go unconcernedly about in their khaki coats and trousers. They are doing a necessary thing as well as they can and they have forgotten about themselves. Before the war is over more women in this country will be doing what has always been considered men's work. If they can do it with the naturalness and sincerity of the Red Cross sisters it will make them more than ever women.

Then there are the women who are making certain little corners of the world restful and safe for men and children. When the homes of a nation go under, the nation is well on its way to defeat. It is also to the homes of the world that men go to recover from its battles. The business of home-keeping was never so important as it is now, nor ever so hard, nor so promising. There was a time when even the fairly sensible parents in homes of refinement believed it was a good thing for a girl to be brought up to know how to work, but they hoped for a degree of prosperity which would never make it necessary. Now the cooks and maids and nurses that we were depending on for the future are working in the fields and factories of Europe. It should be a good thing for Canadian homes; it means that the finest brains and breeding in the land will actually take charge of the kitchens, that women with education and character and personality will spend much of their time with their children, that they will be proud of their cooking, of the simple artistic beauty of their homes.

We have not been spared a knowledge of the more sordid evils incident to war conditions, and when we look back to the first Christmas and think of the sacrifice and the purpose of it, no wonder our vision blurs and we wonder what has come of it all. It is in stray glimpses from the

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men themselves that we see the purpose still shining. Perhaps no one has explained it more clearly than Lieut. Kettle in a poem, "To My Daughter Betty, The Gift of Love," written a few days before he was killed in action at Ginchy. Betty was one of the war babies; her father had never seen her, but if Betty should live long enough to learn that the war was all a mistake she will still know that her father was right. He said:

"In wiser days my darling rosebud grown
To beauty proud as was your mother's prime,
In that desired, delayed, incredible time
You'll ask why I abandoned you, my own,
And that dear breast which was your baby's throne
To dice with death. And oh, they'll give you rhyme
And reason. One will call the things sublime
And one decry it in a knowing tone.
But here where the mad guns curse overhead,
And tired men sigh, with mud for couch and floor,
Know that we fools, now with the foolish dead,
Died not for king or flag or emperor,
But for a dream born in a herdsman's shed,
And for the secret scripture of the poor."

How to Wash Wool Materials

The thrifty housewife will begin in the early fall to look over the wool garments that have been laid aside, for the purpose of selecting those which are to be remodeled. The garments must be ripped, the threads removed, and the pieces shaken and well brushed to remove all loose dust before washing.

For the darker wools the soap tree bark is an excellent substitute for soap. This can be obtained at the drug store in one-ounce packages for 10 cents. Put an ounce of soap tree bark in 1 quart of water, boil down to 1 pint and strain. Use 1 cup of this solution for each gallon of water.

When washing white or light colored wools, use one of milder soaps containing no free alkali. The soap should be shaved and dissolved in boiling water, using about one-eighth of a cake to each gallon of water, or if Lux is used, 3 tablespoonfuls to each gallon. If the material is much soiled, 1 tablespoonful of household ammonia or alcohol added to the water will help to loosen the dirt. Have a good suds of body temperature before putting in the material.

Wash thoroughly, using a squeezing motion and avoid rubbing if possible. Rinse in three relays of water of the same temperature as the first and expel the water by squeezing instead of by twisting. Hang the pieces out smooth and allow to dry slowly. Press while still quite damp. Place the material under a cloth with the wrong side up and press until dry. The iron must not be too hot, but considerable pressure should be used. When moving the iron from place to place, lift slightly so the material will not be shoved and stretched. In conclusion it may be said that the most satisfactory results are likely to be obtained by using soap tree bark for the darker varieties of wood, while on the other hand it will be found more advantageous to employ soaps which are free from alkali for the wools of a lighter color.—Charlotte E. Car-

Womens' Organizations

ONE of the most hopeful signs of the times in the movement of women's organizations is the seriousness with which they are concentrating their efforts on vital problems. With the Women's Institutes, even the war-work, which is supposed to occupy most of their time, does not keep them too busy to look beneath the surface of things at a few problems which cannot wait till the war is over. There is no falling off in the numbers of socks and shirts and Red Cross goods going out from each branch every month, but that work has become pretty well organized through three years' experience; they can do it almost mechanically while they plan about something else which involves new arrangements.

At the annual convention of the Ontario Women's Institutes, Mr. Putnam emphasized the importance of the Institutes taking up the work of medical inspection in their local school districts. In one of the best counties in the province where medical inspection had been carried out in every school, the records show that even in the best communities there is room for improvement in school buildings and in the physical condition of the children. Out of the twenty schools visited the lighting was good in only two. The seating in four was excellent; in fourteen of the remaining sixteen the examiner states that "the arrangements do not belong to this day or generation. The child has to fit the seat instead of the seat fitting the child." In only two of the twenty schools was the ventilation good; one teacher had put boards across the window to get current of air without a draught. One good feature of the report was that eighteen of the twenty schools were clean.

The examination of the children showed fifteen per cent. suffering from malnutrition, thirty-eight per cent. with defective vision, which is not surprisingly large when we remember that only two of the twenty schools were well-lighted. Twenty-eight per cent. had nose and throat trouble. Seventy-one per cent. had defective teeth. Over five per cent. had bad hearing. Other troubles were discovered which might or might not depend on school conditions, such as nearly three per cent. affected with goitre, three per cent. with bad digestion, three per cent. with nervous trouble. One alarming condition revealed by the examination is that forty-nine per cent. of the children showed the result of faulty position in sitting at their desks; then we remember the doctor's observation that in seventy per cent. of the schools the children had to fit the seats, instead of the seats being made to fit the children. Of the five hundred and fifty-three pupils in the schools there were four feeble-minded.

A record like the above from a county of prosperous farms and good homes, in a district admitted to be one of the most healthful in Canada, leaves no room for the idea that medical inspection is not necessary for country schools, or that it can wait until after the war.

To Control Communicable Diseases

At the Western Ontario Women's Institute Convention the subject of "Communicable Diseases" was taken up by Dr. Hill, London Medical Health Officer, the most important feature of the address being the question of the control of venereal diseases. The entire address will be published in the yearly report which will go to every Institute member, but it is well to mention that no rural women's organization can afford to ignore the fact that this is not a matter for only cities to take care of—that the problem is just as serious, comparatively, in the country districts and smaller towns. That the Institutes of Western Ontario are ready to assume responsibility in the matter is shown by the following resolution passed at the Convention, to be forwarded to the provincial government.

"Whereas the prevalence of venereal diseases, not only in military but also in civilian life, has been shown to be so general as to be a grave menace to society, be it resolved that we, the Women's Institutes of Western Ontario, desire to urge upon our Provincial Government:—

"(1) That it give wide publicity to the extent of these diseases in order that our province may know what conditions are.

"(2) That whereas eighty per cent. of professional prostitutes are known to be feeble-minded, and medical authorities have shown that feeble-mindedness and immorality are closely interwoven, action be taken at once to segregate all feeble-minded children and adults, and that an appropriation be made for the extra buildings and equipment required for segregation.

"(3) That a measure be taken to make venereal diseases isolatable as are all other contagious diseases.

"And be it further resolved, that we as members of the Women's Institute pledge ourselves both as individuals and as societies—

"(1) To take earnest effort to acquaint ourselves with the moral conditions in our own communities.

"(2) To let no false modesty or cowardice hinder us from taking locally whatever stand investigation shows to be advisable.

"(3) Finally, be it resolved that we believe that the moral education of our youth and the provision of wholesome recreation and activity for our youth are the two things pre-eminently needed to stamp out the evil of immorality."

"Get up, get up! There's a burglar in the house," whispered the penniless poet's wife.

"What of it? Let him find out his mistake for himself."—Liverpool *Mercury*.

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MacLean Publishing Co.
143-153 University Ave., Toronto, Ont.

December Fashion News

Distinctive Models for the Home Dressmaker

Waist No. 8918
Skirt No. 8919

IN the costume shown above the waist recommends itself through many attractive features, including the surplice closing and narrow shawl collar. The waist is made on a lining and the one-seam sleeves are dart-fitted to the elbow, the sides finished with a row of small buttons. The fitted waist is very popular this season. The skirt in two pieces is draped at the sides and has a plaited panel in the back. The side sections are slightly gathered, and the drapery is low so that the straight-line silhouette is suggested, if not strictly followed. The dress as illustrated is made of black satin with a white satin collar. Satin, charmeuse and crêpe meteor weaves are favored this year, but heavier materials would be equally suitable for the design, such as broadcloth or fine serge. The material is a matter for personal consideration. For the guidance of the home dressmaker I am giving a table of quantities and the average cost of each design. In every case findings include thread, hooks and eyes, belting, where it is needed, and the transfer patterns for embroidered or braided design.

Designs 8918-8919 require:

4¼ yards black satin, 42 inches wide at $1.75	$7.44
⅝ yard white satin, 42 inches wide, at $1.50	.94
⅞ yard lining lawn, 36 inches wide, at 12½c.	.11
Findings	.25
Patterns, at 15c.	.30
	$9.04

In the dress No. 8749 we might mention some of the effective little touches that will make this dress individual. Where the plaited sections are joined to the upper part of the skirt, a row of fancy buttons with little loops would seem to fasten the sections together and at the same time be very ornamental in effect. A similar arrangement may trim the sleeve also. If you make the collar of tan satin, finish it with an edge of seal fur banding. Fur always makes a gown look more costly and for fall and winter is most seasonable.

This style is suitable for serge, gabardine, poplin, tricot, jersey, taffeta, satin and charmeuse.

Design 8749 requires:

4⅜ yards 54-inch broadcloth, at $2.	$8.75
⅜ yard tan satin, at $1.50	.57
1¼ yards fur banding, at $1	1.25
Findings	.33
Pattern	.15
	$11.05

No. 8925

No. 8749

The virtue of design 8929 is its straight-line simplicity. I recall this design in jersey cloth especially in taupe and other shades of grey and tan, but I suggest blue serge as equally suitable. The collar is bright blue satin, or if you choose a lighter color for the dress a black satin collar, black buttons and a black belt would be very smart and effective. A braiding design is attractive wherever appropriate, as it is on this design.

The plain dart-fitted sleeves and slashed pockets are features of this style.

Design 8925 requires:

4 yards 42-inch navy blue serge, at $1.25	$5.00
½ yard 36-inch bright blue satin, at $1.50	.75
1 piece dark blue braid	.25
Findings	.42
Pattern	.15
	$6.57

Design 8902 is dainty, pretty and practical, all in one. Lingerie blouses are displayed so extensively in the shops that I advise voile for this design, which falls in graceful lines of fulness. There are gathers in the fronts at the shoulders and one-seam sleeves in full length with turn-back cuffs. The shaping of the long collar is unusual and can be daintily finished with a narrow Valenciennes lace edging, and the embroidered designs on the collar and cuffs are distinctive touches. Small crochet buttons and loops fasten the blouse.

No. 8902 No. 8915

Chiffon or Georgette crêpe, the same color as your suit, are the favorite materials for the dressy model this fall.

Design 8902 requires:

2 yards 42-inch white voile, at 25c.	$0.50
4¼ yards lace edging, at 8c.	.36
Findings and transfer	.45
Pattern	.15
	$1.46

Design 8915.—Tucks, one-inch in width, make this waist attractive. The continuous outline of the yoke and fronts is different and the fronts may be rolled open. The choker effect, however, is one of the season's novelties. The one-seam sleeves may be in full-length with deep cuffs, or in shorter length turned back to form cuffs.

Linen, madras, lawn, batiste, voile and other wash fabrics are suitable for this design, but taffeta, satin and crêpe de Chine could be used also. If you select white lawn, the collar would be effective in rose linen.

Design 8915 requires:

1¾ yards 40-inch white lawn at 18c.	$0.32
½ yard of rose linen, at 50c.	.25
Findings	.25
Pattern	.15
	$0.97

8893.—Curls are the proper accompaniment of a pretty dress. This attractive style has the tucked front and back; the side and underarm sections in one with

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1506. Driving Coat of Fine Muskrat. 45 inch length, beautifully designed. Skins are of fine quality; even, dark colors, carefully matched, and workmanship is faultless. Lined with heavy guaranteed brown satin—new style collar, which can be worn as a high Chin-chin or flat as in small illustration. Finished at waist line with half belt. In sizes 32 to 42, bust.
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the belt and one-seam sleeves in full or shorter length. The straight skirt is box-plaited.

The 10-year size requires 2¼ yards of 42-inch serge and ¾ yard of 36-inch crêpe de Chine for the dress.

Dress 8893 in 4 sizes, 8, 10, 12 and 14 years, 15 cents.

8895.—Practical and smart for school is this design with the plain-fitting upper section lengthened by a straight plaited lower part. The one-seam sleeves are in full length with turn-back cuffs or in shorter length turned back to form cuffs. Combinations of materials are suggested.

The 8-year size requires 1⅞ yards of 32-inch plain chambray, and 1¼ yards of 32-inch plaid gingham for the dress.

Dress 8895 in 4 sizes, 6, 8, 10 and 12 years, 15 cents.

8922.—The small girls' coat may have the fronts closed to the neck, as shown, or rolled open. The two-seam sleeves have fancy cuffs. The three-piece skirt portion has gathers at the sides and slash pockets. Gabardine, serge, tricot, velours, cheviot, broadcloth, velvet and velveteen are some of the suitable materials.

The 4-year size requires 1⅞ yards of 54-inch velours for the coat.

Coat 8922 in 5 sizes, 4, 6, 8, 10 and 12 years, 15 cents.

8924. — Any young girl would feel dressed up in this good-looking coat, with fronts closed to the neck or rolled open, round yoke with drop shoulder and two-seam sleeves. The cuffs may be omitted. Velours, broadcloth, poplin, velvet and velveteen are suitable materials.

The 14-year size requires 3 yards of 54-inch broadcloth and 1⅜ yards of narrow fur banding for the coat.

Coat 8924 in 5 sizes, 6, 8, 10, 12 and 14 years, 15 cents.

Thought Too Highly of Both

On a road in Belgium a German officer met a boy leading a jackass, and addressed him in heavy jovial fashion as follows:

"That's a fine jackass you have, my son. What do you call it? . . . Albert, I bet!"

"Oh, no, officer," the boy replied quickly. "I think too highly of my king."

The German scowled and returned: "I hope you don't call it William."

"Oh, no, officer. I think too highly of my jackass."—Paris *Liberte.*

THE LATEST THINGS FOR DRESSY WEAR

The long tunic, satin and braid trimming and straight lines are features of the season's fashions.

The blouse of dark soft silk is both dressy and durable.

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Ringing in a Wise Change

Coming Back to a 30-Acre Farm and My Estimate of its Possibilities

By ELMO ANNAN

I HAVE just finished writing a letter including a Christmas greeting to an old boyhood chum out in the State of Idaho. Like myself he is still in his early thirties. We grew up together in this section of rural Ontario. We attended the same school and church, went to the same picnics and garden parties and generally were "as thick as thieves." About the time that we were old enough to vote, he went West, and I, as the youngest son of the family, took over the management of the home acres. That was 10 years ago. In the meantime I had lost track of Bill and knew nothing of his whereabouts until two weeks ago when our mail carrier dropped a letter in our box bearing an Idaho postmark. It was from Bill. First he detailed his history from the time he left home, his marriage to "the best girl in the world," his career in business, and finally wound up with an appeal for advice on a problem which he seemed to think I was eminently qualified to pass upon. The problem has kept me pondering ever since. Perhaps an extract from Bill's letter will explain the situation to you as it did to me. It ran as follows:

"And now Jack I am going to ask your advice. The return of Christmas days brings our thoughts to real things. Our two little youngsters are getting up to that stirring age where the confines of the town lot don't satisfy them. We don't want them out on the street. We want them romping around in a big farm yard, with good air, lots of room and no evil associations. In fact, we want to go back to the land, and Edith is agreed that rural Ontario must be about as good a place to live in as any, seeing it produced me. A few weeks ago Dad wrote me that I could buy that 30-acre farm right beside you for $2,400. He says that $500 or $600 would put the buildings in good shape, house and all. It is an attractive little spot, I remember, with a quaint storey and a half house, overhung by great elms; and being next door to you would not be a disqualification.

"Now Jack, you know that farm. What are the chances to make a go of it? We will have about $5,000 cash when we turn over our property here and we have a good offer on it now. When I first came West I worked on a dairy farm for three years and became quite proficient in handling Jersey cattle, and, what's more, I liked the job. We would have some Jersey cows on that 30 acres. Poultry has always been my hobby and our townyard flock is profitable. Then, Edith and I have the advantage of both being country bred.

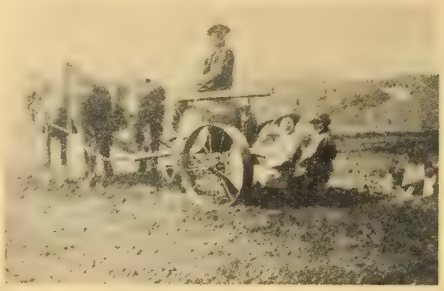
"We haven't the capital to buy 100 acres outright. We don't want to shoulder a heavy mortgage. We could finance that 30. We are not looking for a big income; just a good comfortable living and a chance for the kids. Now for old time's sake and the chance of getting a good neighbor, give me your best advice on the problem."

THAT 30 ACRES

Yes, I know that 30 acres very well. It has a nice loam soil with a gravelly limestone sub-soil. It lies nicely and is well drained. It is ideal for three crops,—alfalfa, corn and potatoes. On the back of the 30 there is a small bush pasture, watered by a never-failing spring creek. The buildings are in a fair state of preservation, but the house will need some overhauling before it can be described as a comfortable modern home, no more, however, than a handy man with the help of a good carpenter could do in a few days' time. The soil is not in the best of condition, but to my mind it would soon be ideal for just the type of farming that Bill seems to favor. I know that a 30-acre farm is too small to meet with the approval of farm management experts such as Archie Leitch up at our college at Guelph, but then Bill says he isn't looking for a big income, so after thinking about the proposition for a couple of weeks, I have spent most of this afternoon laying the whole situation before Bill. Finally I took it upon myself to advise him to come back and make a try at it in the land of his birth.

This little 30-acre farm has never made much of a living for its owners, and it has had several of them in the last 20 years. The trouble, I believe, was theirs. They didn't seem to understand that a small farm cannot be run on the same principles as a larger acreage, and they all tried to imitate the rest of us who farm 100 to 200 acres each. I was over the place a week ago. The present owner has four or five cows of questionable quality, a few pigs and his wife looks after the 50 or 60 hens, of all ages and all breeds. The fields are devoted to grain and hay with about one-half acre of roots. The wife made butter. I suppose that in the course of a year, the cows would bring in $350 or so, the pigs a couple of hundred, and the fowl perhaps another hundred, a total income of $600 to $700, out of which to pay taxes, threshers' bills, buy pig feed and meet numerous incidental farm expenses before the family even began to get their living. There isn't a living in the place farmed in this way, and the owner has been out with his team working for the rest of us a good part of this season; too much, in fact, for his crops at home are neglected and not as good as they should be. I don't wonder that he wants to sell.

This is the dark side of the picture, and I gave Bill the benefit of it all. I didn't want his dreams to be too rosy. But I also told him the possibilities of the little place. I don't think I mentioned before that over half of it is so rolling that it would be arduous work caring for hoe crops on the back part of the farm. This rolling nature of the land, however, is an advantage in growing alfalfa. The front part of the farm next the road is fairly level and the soil is a little stronger loam. In this portion of the farm there are two fields of six acres each on either side of the buildings.



A potato digger at work by a New Ontario subscriber. This machine dug a carload last fall.

MY PLAN FOR WORKING IT

Now here is my plan. I would plow the back part of the farm, exclusive of the bush pasture, this fall and summer fallow the 12 or more acres of rolling land until the middle of next July. Early next spring I would sow on this land 500 lbs. of basic slag to the acre. I have found that there is nothing like basic slag to give alfalfa a start. It is rich in lime and phosphorus, and these are the two elements that alfalfa principally feeds upon. Basic slag, however, is slow in its action, and it needs to be put on early. Until mid-July I would harrow and disk frequently to keep the weeds down, then I would give a small application of complete fertilizer, say 200 lbs. to the acre, and then seed with Grimm alfalfa without a nurse crop. I would inoculate the seed, and even if this variety does cost $16 an acre for seed, with proper management it is good for 10 years, which figures out to only $1.60 per year for each acre seeded. This 12 acres of alfalfa, once it was off to a good start, would supply ample hay for all requirements and some to sell. And such hay! I have never yet seen the farm roughage that can compare with alfalfa.

Now for the two fields next the house. On these I would plan to run a two-year rotation. The first year I would have one field in three acres of silage corn, half an acre of roots and garden vegetables, and two and one-half acres of potatoes. The other field would be in mixed grain, seeded down with seven pounds of red clover to the acre. In the fall and winter I would manure on the stubble and in the spring the clover would start off to a wonderful growth. I have plowed down clover the first of June seeded the previous spring and it was a foot high. This clover would be plowed under about the middle of May, and in the second year the hoe crop would be transfererd to this field, the other field being in grain seeded down. The third year I would have the roots and potatoes where the corn had been the first year. In this way I would be following a four-year rotation with two hoe crops and two grain crops. These two fields would get practically all the manure with a very light top dresing of alfalfa occasionally.

SILO AND SIX COWS

I would build a silo. The three acres of corn would be sufficient to feed six good cows and a few head of young stock all winter and to supplement the four acres of bush pasture in summer. If the pasture didn't promise to sustain the cows with what corn ensilage was left over, Bill could pasture a part of his spring grain. This is an excellent practice, as I know from my first experience with annual pasture mixtures this year. Two medium weight horses would do all the work on the farm.

"And now Bill," I wrote, "I suppose you would like to know just what the proposition will look like in dollars and cents.

You will have six good cows that should bring you $600. You say that you are a chicken fancier. Well, our White Leghorns have netted us almost three dollars apiece this year. There is already accommodation for 200 hens in the buildings on that 30 acres and with feed bills paid you should have $400 to the good from your poultry. If you turned off only a dozen or so pigs you should have $100 clear of expenses. You will note that I am not advising that you grow much grain, and what little you do, I would advise that you feed it in the sheaf, or let the chickens thresh it. It is not wise to grow grain and have a threshing on so small a place as the one you propose buying. Grain prices are abnormal now, but in a normal year you will find that you can buy grain about as cheaply as you can grow it. You will see that I have arranged for a cash crop that will bring in a lot of money per acre; your potatoes should net you $250 at least. This will buy feed for your cows and for your horses as well. Once you are well on your feet, here is a possible balance sheet for a year's operations.

Farm Receipts

6 Jersey cows, 300 lbs. fat, at 30c	$540
12 pigs per year, profit	100
200 hens, at $2 profit per hen	400
2½ acres potatoes	250
Total	$1,290

Farm Expenses

Feed for six cows at $30 each	$180
Horse feed, shoeing, veterinary service, etc.	98
Silo filling	25
Labor	100
Seed	20
Incidentals	150
Total	$572

"This will leave a net income of $717 from this trial balance. As you can buy the farm outright you will have no interest to pay, you will have house rent free and as much of your living as you can get from the farm. The first year you will find that you have more outgo than income, but that is the fate of all new farmers and your capital is sufficient to tide you over even two or three bad years. Then there are possibilities of extension when your boy gets old enough to lend a helping hand. You might double your poultry plant. You might grow strawberries in place of potatoes. In any case there is a good living assured and in our district at least, we don't judge the worth of a man by the size of his income, and you would move in the best society (we still have only one set here) and all your old friends would be glad to see you and give Edith a warm welcome.

"Of course, I will not attempt to tell you just how you should farm the old Johnson place. I just suggest this plan to show you its possibilities under a system that I consider desirable. You might do worse than resolve to spend your next Christmas taking an inventory of your past year's farming operations."

And while I am awaiting Bill's decision as to the wisdom of tackling a 30-acre farm and his opinion of my plan for its management, I submit the whole scheme for the consideration of anyone who cares to comment upon it. Tell me, my friends, what do you think of it? Is there a good living on a small farm in Old Ontario?

Food in Jerusalem

In Jerusalem, bread costs 11 times as much as it did prior to the war. Petroleum costs 30 times as much as in 1914, and milk five times.

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Tuesday, - December 4th.
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Practical Field Methods

Sort the Seed Beans

A great many farmers this season were disappointed in the ripening of their beans. Some of the crop was quite ready for harvesting at least two weeks before the remainder of the crop could be taken off. This meant that some of the crop had to be harvested green or that loss would accrue through leaving a part of it till the beans shelled. In any case loss was inevitable.

By far the better course to have followed was to harvest a portion of the crop for seed, by hand-picking the first that ripened. One difficulty in growing beans in all but the more favored parts of Canada is the early frosts of September. Hence the necessity of sowing only such varieties of white beans as will mature between the first week in June and the first week in September. Every farmer who has tried it knows that there is such a variety. There is, for instance, the small white "pea" bean that is an excellent cropper and satisfactory in every way. There is money in the bean crop, but it can be picked up only by carefully selecting the seed. Hand-picking the seed is the better way, of course, but, when time is a serious consideration, careful screening will go a long distance towards securing this small, productive bean for seed.—A.K.

Underdrainage at the C.E.F.

At the Central Experimental Farm, Ottawa, soil conditions vary greatly. The problem of drainage has been a big one, but they are getting results now. Three main outlets are used, two located at the western and one at the eastern boundary. In explanation of the system it may be defined as a combination or modification of the herring-bone, gridiron and across-the-slope systems of drainage. The first described system is well suited to drain ponds or basins; the second or gridiron system is adapted to level land where the drainage required is fairly uniform; the across-the-slope system is used on side hills and slopes.

Clay tile were used throughout, varying in size from 3 to 10 inches. Tile smaller than three-inch were considered too small in this instance and are not recommended for ordinary conditions.

Sand traps or silt basins are indispensable, furnishing clearance for the fine sand that enters the tile and which, if not provided for, would lodge in and clog such tile as are laid on somewhat less than a two-inch grade. These sand traps are of different sizes according to requirements. Some are six feet square while the majority are approximately four feet square, extending into the ground about two feet below the outlet tile, thus providing ample space for considerable deposits of sand and silt. The traps are enclosed by concrete walls six inches thick, flush with the surface of the ground and covered by concrete tops provided with manholes protected by gratings. They are located, as far as practicable, adjacent to roadways, fences or other suitable places to ensure the least possible obstruction in cultivated fields.

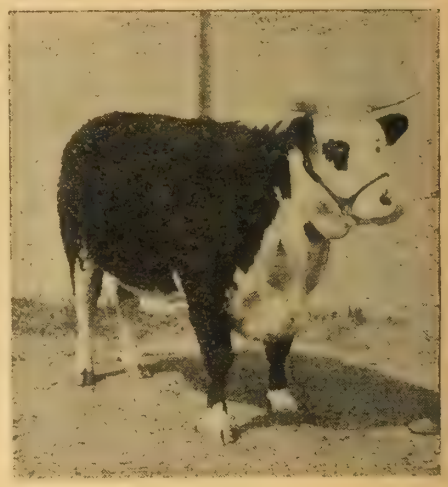
The depth and distance apart of the drains vary with soil conditions. In clay subsoil, the laterals are as close as forty feet at a depth of approximately three feet. In lighter soils, the laterals are farther apart and often deeper in the ground, especially towards the outlets.

Successful Plowing Match

The plowing match held on the farm of Mrs. Robert Gilbert, near Huntingdon, Quebec, on November 2, was attended by large numbers of Quebec farmers. A United Townships Plowing Association was formed to represent the townships of Godmanchester, Elgin, Hinchinbrooke, Dundee and the parish of St. Anicet.

Fires by Combustion

In connection with my chemical studies of alfalfa at the Nevada Agricultural Experimental Station, I am undertaking to ascertain the extent, causes, and possible prevention of alfalfa hay fires in stacks or barns. In order that my results may be of value to the farmers I must get into communication with as many people as possible, who have suffered hay losses by fire. To get this information quickly I will offer 25c in stamps to all who send me the name and address of the person who has had 50 tons or more of hay burn during the past twelve months, or who may have hay losses by fire during the coming year, provided such name has not been previously reported to me. If you have any hay worthless for feeding let me know. Write to Prof. C. A. Jacobson, chemist, Box 672, Reno, Nevada.



Herefords are bringing big prices now.

Examine the Drains

The busy farmer has been sorely tempted this fall to neglect his drains. He will have reason for self-congratulation if he makes up for this omission by spending some time in attending to the outlets of his drains. Pains should be taken to see that the water has a good chance to run freely from the last tile. If conditions are such that water should be running from the tile yet the drain is not discharging the tiling should be investigated to find the cause. A broken tile may be the occasion of the trouble. In such a case there is nothing for it but to dig down and to reconstruct the defective part of the drain. The job may be an unpleasant one, but it must be done or the defect will rapidly become more extensive.

When a drain runs through a field in which the fall is so slight that the run of water is very slow there is a tendency for the tile to fill up with soil, particularly if the soil be inclined to be sandy. When this takes place relief may be had by the use of an occasional trap. The trap is simply a small cistern into which the drain enters at one side and which is emptied by the drain from the opposite side. The water in this way comes to a rest and the soil in it settles and may be removed from time to time. This simple device has proven a boon to many an owner of a wet, level field. This expedient is all the more effective if the entrance thereto and the egress therefrom are from opposite corners. For example, if the drain empties into the "cistern" at the south-east corner, the egress should be from the north-west corner. In this way the soil has a better chance of settling as the water remains longer in the cistern.

There is no difficulty in the world in cleaning one of these traps, as all that is required is the removing of the earth and the covering and scooping out the contents with a shovel or some such device as can be made by anyone in a few minutes.

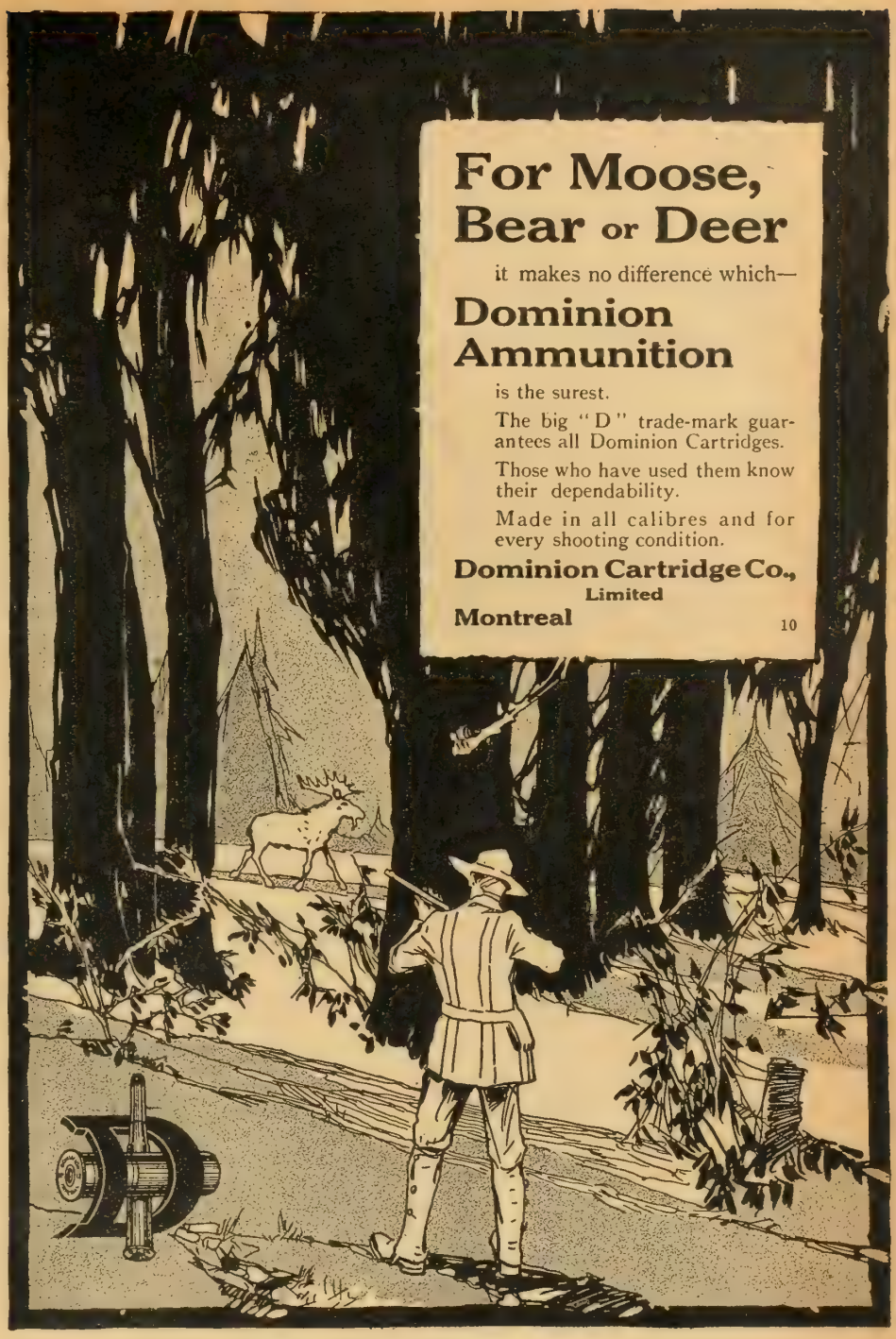
If the mouth of the drain appears broken down in any way, it is good practice to dig back a few feet and to replace the tile. Some have found it expedient to use a wooden exit to the drain, such as a few feet of wooden pump, or a box-like structure. By this means the action of frost is found to be less destructive.

A drain that is not active when the ground is soaked is simply a deceiver. It should be remembered that a drain may be repaired and that when it is in good condition it will work continuously as long as its services are required. — Alonzo Brown.

Profits From Fertilizers

Good feed alone will not make profitable or prize winning animals. Livestock must receive good care and proper housing in order that best results may be secured from the good feed. Fertilizers are simply good feed-balanced rations for our crops. Efficiency and profits from using commercial fertilizers depend very largely upon the following points.

A well drained soil permits good air circulation and warms early in the spring thus promoting bacterial activity so necessary in rendering all the plantfood available. Drainage removes surplus water during the wet spells, puts the soil in better tilth, breaks it into minute particles thus increasing the water-holding capacity. A constant supply of water is necessary to dissolve plantfood so as to



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Editor Breeders' Gazette.
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143-153 University Ave., TORONTO

furnish a supply all through the growing season.

A SWEET SOIL BEST

Practically all farm crops and desirable soil and plant bacteria do best on a sweet soil. The Ohio experiment station as well as many individual farmers, have secured greater profits from both lime and fertilizers where used on the same land than from using each separately. For best results the lime should be applied first and well worked into the soil before the fertilizer is applied.

Well decayed organic matter improves the tilth of all soils. It increases the water-holding capacity of the soil, as *one ton of organic matter will hold from 8 to 10 tons of water.* This, like drainage, provides a steady source of water which aids in maintaining a uniform supply of available plantfood for the crop during dry weather just when it is most needed. Organic matter furnishes a home and food for the bacteria that aid in liberating the plantfood. It also absorbs and holds all available and soluble plantfood until used by the growing crop.

WHERE PLANTFOOD SHOULD BE

Plants absorb their food through the root hairs which are on the smallest roots. As the majority of these roots are in the second, third, and fourth inches of soil, the plantfood should be placed there. Some apply fertilizer on top of the soil, but fail to work it in. This is wrong as it leaves the fertilizer above the soil moisture and plant roots. Others plow it under. This is also wrong as it places the fertilizer too deep. Fertilizers should be placed in that portion of the soil where larger proportion of the smaller roots are to be found. The fertilizer attachments of the various grain and seed drills offer the best means of properly applying fertilizers. When they are applied on the surface by hand or through a broadcast drill, a larger amount should be used than when applied with a drill. In this case they should also be well worked into the soil. Don't depend on a rain to wash in fertilizers; drill them in or disk them in.

WHAT IS BEST FERTILIZER?

There is no "best fertilizer." Since fertilizers supply ammonia, phosphoric acid and potash (plantfood) the best analysis or kind to use is the one that supplies the proper proportions of these plantfoods needed by different crops and to make up the deficiencies of the available plantfood of the soil. When the crop starts slowly and is short of stalk more ammonia is needed. When the amount of grain and fruit is small, or slow in maturing or of low quality more phosphoric acid is needed. If the grain is not plump or the stalks weak more potash should be supplied in the fertilizers when available. *High analyses or high grade fertilizers are the cheapest in the end* to use as the plantfood can be purchased cheaper in high grade than in low grade goods.

Feeding crops is like feeding work horses or dairy cows. The well and correctly fed ones are the most profitable whether animals or crops. As a rule the first application of fertilizer should be heavier than later applications as there is usually a hunger of the soil that must be satisfied before best results can be secured by the crop. As a rule 300 to 400 pounds to the acre of a properly balanced and well suited fertilizer is more profitable than a small amount, especially for the first application.—J.W.H.

Read Trade Journals

By H. ADDINGTON BRUCE

In the Winnipeg Telegram.

YOU are anxious to get on in your chosen calling. You long for promotion. Perhaps, having lagged for some time, you are beginning to feel discouraged. But are you doing all that you can to deserve success?

Are you, for one thing, making it a point to read and study some authoritative journal of the profession, business, or trade in which you are working?

All truly alert business men read trade journals as a matter of real necessity. They feel that it is impossible for them to continue progressing unless they keep abreast of the latest developments in their particular line of business as recorded in the journals they read.

You, let us suppose, are an electrician —a young, ambitious electrician.

Well, there are trade journals specially addressed to you. They are published in your interest, published for the express purpose of helping you to become skilful at the trade.

Do you read any of these journals?

Do you even know their names?

If you are a plumber, there are other journals of particular value to you as a plumber. Likewise if you are a hotel clerk, a bank clerk, a salesman, a hardware merchant, a dealer in china, a cigarmaker, or whatever else you may be.

For every vocation there are trade journals—some of them, of course, much better than others. And he is indeed a wise young man who early becomes a subscriber and constant reader of a good journal dealing with his trade.

He will learn from it how other men in the trade have won success. Almost every week he will glean from it something of direct helpfulness in winning success himself.

One week he will be specially enlightened by a leading editorial. Another he will profit most of all from a seemingly insignificant item of three or four lines, of peculiar interest to him because it chances to touch on a problem with which he is for the moment much concerned.

Or, tucked away in some letter in the trade journal's correspondence columns, he may come across an idea opening up to him new vistas of thought, perhaps a new avenue of opportunity.

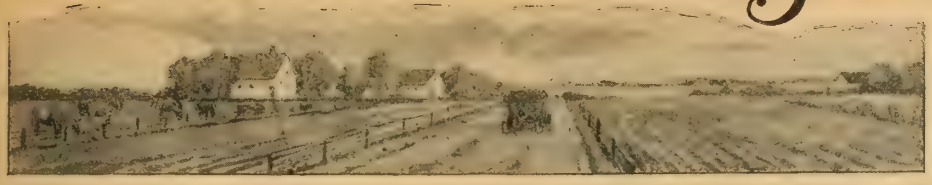
Knowing these facts, I would say to any young man:

Read the newspapers. Read general magazines. Read good books. All of these are broadening.

But in addition read at least one good journal specially intended for men in your trade.

If leaders in the business world feel that they cannot afford to miss the reading of trade journals, can you afford it?

Business of Farming



Playing Square With the Tenant

How Red Clay Hills Were Made to Return Big Profit to Owner and Tenant

By ALONZO BROWN

"NO, I'll not take the farm another year," Henry Raymond told his landlord. "I'm through with it. Things are running behind and I don't want to muss them worse than I have done already."

"Sit down a minute and let us talk," was the reply. "That place has been on my mind a good while. I got it on a bad debt. It was that farm or nothing. I knew that if any tenant could make that place go you could. You've done your best. I'm not the sort of man that wants all you have, body and soul. And I'm not a philanthropist but a business man. I'm still convinced that you can dig profits out of that old place, but there'll need to be a change. The first change is that I'm going to give you back this year's rent, on the condition that you use it for getting some things to make yourself and the youngsters comfortable. The second change is that you take the place next year for what can be made off it. Understand, you are to give me your services. I'm going to spend some money on the place, but you are to get all the profits. I'll pay the taxes and the wages for the men we'll hire and you are to get your living free. You will need to do a whole lot of hard thinking and be careful, but I'm going to give you as square a deal as I know how to give you. Is it a bargain?"

BAD RED CLAY HILLS

What made this farm so difficult to operate was the fact that about thirty acres of it consisted of red clay hills. A stream ran between these hills that kept up some semblance of verdure, but for the most part the hills were practically useless for agricultural purposes. Some parts of the hills were springy. Other parts were dry to the point of barrenness. The remainder of the farm had been cropped and overwrought to make up the rent and as a consequence it was badly run down. Each tenant had felt himself obliged to skim the fields a little closer till the farm was on a fair way to being useless.

"Make an inventory of everything you have on the place and I'll be out to see you in a day or so. Make a good square valuation and I'll either give you the cash or I'll give you when we separate the equivalent of everything you now have out there. I think, however, that you had better sell to me. What I want you to do is to take out plenty of wire and nails and such things and fix up the line and road fences and gates, for I want to have some stock on the place in a couple of weeks."

RAYMOND TAKES HIM UP.

Raymond returned to the little farm with a good heart. Never in his life had such an opportunity been offered to him and he went to work with a will. The haunting spectre of possible loss was removed from his little world. He realized that he was no man's slave or hireling. In reality he was in partnership and his soul was filled with the resolve to make good or to know definitely the reasons why success did not come his way. The inventory of his chattels was a fair one, and the work done on the road and line fences was of a quality that made them cattle proof.

"That's your first wad, is it?" queried his landlord as he handed him the money for his stock. "Well, you had better put it where you can't spend it. It's not pocket money. Set it to work for you. Put it where it's safe and put your mind to this farm. I want you to look up the nearest government tractor and set it to work. I want every foot of the farm plowed except the meadow land, before snow flies. As for yourself, I want you to get busy on those red clay hills.

"I want you to plow those hills as well as you can. Take your time; don't hurry. Plow well. Get all the land moving if you can at all. I want the frost to do all it can. You will find a good depth of soil near the creek. Before the heavy rains come cart up as much of this soil as you can to spread over the poorer knolls and then plow under. Don't plow more than four inches deep. What I want is to get the land exposed to the weather as well as I can. As it is the land is desperately hard and will grow nothing. What I aim at is to have the land grow something. If I once get it to grow anything at all I can get it to grow a good deal more. As we get stuff to grow on it we'll deepen the soil an inch or so every time we plow it."

BUYS SOME SHEEP

The next step on the part of the landlord was the securing of a flock of sheep for pasturing purposes. Fifty in all were secured and these were turned loose in the fields for a week or ten days before the plowing was done. A few turnips and a little grain and some salt were scattered on the poorer knolls and other parts of the fields with fine advantage to the soil as well as to the sheep. The tenant was delighted to find fifty dollars

Better Farming Special

The Grand Trunk Railway is co-operating with the Ontario Department of Agriculture, including the Ontario Agricultural College, Guelph, in running two agricultural instruction cars over its lines in Eastern Ontario. The cars will be equipped with exhibits illustrating approved methods of agriculture, including underdrainage, the application of fertilizers and lime; seed selection; production of the ordinary grain; root and vegetable crops, with samples of the best varieties; insect pests and plant diseases and their control; standard grades of wool properly prepared for market; poultry house equipment, with desirable types of the utility breeds; modern dairy methods and equipment; commercial feeds; water supply and sewage disposal.

The cars will be open for inspection from 10 a.m. until 5.30 p.m. School children are specially invited to visit the cars between 10 a.m. and noon, during which time lectures for the young will be given. Each department will be in charge of a demonstrator, who has had special training and practical experience in that particular branch of work.

Evening meetings will be held as indicated below, at which an address on some topic of general interest will be given. Moving pictures illustrating practical up-to-date agriculture will also be shown at these meetings. These pictures will represent desirable types of horses and dairy cattle, hogs, etc., poultry raising, grading wool, tractors at work, the agriculture of Northern Ontario, road construction, canning of vegetables, bee-keeping, etc.

Everyone interested in agriculture will find much of interest and value in the instruction coaches and at the evening meeting.

The train will visit the following places on the dates named:—

Place	Date	Hall—For Meeting at 8 p.m.
Cornwall....	Nov. 27	Town Hall.
Morrisburg..	" 28	Town Hall.
Prescott ...	" 29	Opera House.
Brockville ..	" 30	Victoria Hall.
Gananoque..	Dec. 1	Assembly Room, Bd. of Education.
Kingston ...	" 3	City Hall.
Napanee ...	" 4	Town Hall.
Belleville ..	" 5	City Hall.
Brighton ...	" 6	Town Hall.
Cobourg ...	" 7	Opera House.
Port Hope..	" 8	Town Hall.
Millbrook ..	" 10	
Stirling	" 11	Town Hall.
Campbellford	" 12	Music Hall.
Peterboro ..	" 13	Public Library Hall.
Kirkfield ...	" 14	
Lindsay	" 15	Town Hall.
Beaverton ..	" 17	Town Hall.
Cannington..	" 18	Town Hall.
Uxbridge ..	" 19	Music Hall.
Markham ..	" 20	
Agincourt ..	" 21	

CARS OPEN FROM 10 A.M. TO 5.30 P.M.

NOTE.—Arrangements are being made for evening meetings at those places where the names of halls are not given. Folders giving full particulars may be had by writing to Geo. A. Putnam, Department of Agriculture, Toronto, Ont.

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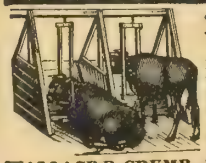

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coming his way as practically found money.

"That's your profit," the landlord told him. "Get the land plowed and sow it to rape and rye and a little vetch. Keep a little clover dribbling from the seeder no matter what you're sowing and we'll see the results in a little while."

DRAINS THE HILLS

The second step taken by the landlord was the draining of the softer portions of the hills. This he did by running tile at the depth of about three feet. All the underdrains ran into a reservoir from which there was an opening to a hydraulic ram. The aim was to pipe the water, that hitherto had been simply a menace, to the top of the hills where pig pens were to be built. A second set of piping conveyed water from the reservoir to the farm buildings. The landlord let out this job to an experienced worker and was surprised how cheaply his job was done.

About the middle of November a bunch of steers was purchased and given a run during the fine days on the plowed land that was already showing considerable growth. Throughout the winter these feeders were kept thrifty by moderate feeding. There was no attempt at fattening them beyond keeping them in good flesh. As soon as the grass was green in the spring they were turned out gradually to roam along the creek and the flats and fed all the grain they required with the result that they fleshened rapidly. The cost of wintering them was of the most moderate character, while the last fleshening was rapidly and cheaply made. A fine profit was left to the credit of the tenant.

During the winter, poles were drawn from the land lying along the creek to the top of the hill for the hog pens. The landlord's plan was to spend as little money as possible from which he did not get an immediate return. Expensive farm equipment, he saw, might easily become monuments of human folly and he did not propose to engage in the manufacture of any such memorials. During the winter, too, several logs were drawn to the local sawmill to be turned into lumber for the hog pens. As summer came on a carpenter was sent out and he and the tenant had sufficient pens ready by September for a couple of dozen hogs.

ALFALFA IS INTRODUCED

In the spring the clay hills were sown as early as possible to alfalfa and sweet clover, with a nurse crop of barley. The alfalfa was sown on the dry hills while the sweet clover was sown on the wetter portions. The utmost care was exercised to have all the seed sown free from weeds. "Sow this sweet clover in all sorts of places about these hills except, of course, where we have the alfalfa," was the landlord's instruction.

Tenant and landlord alike were delighted with the crops. The lower two-thirds of the hills were well covered with the alfalfa, while even at the top of the hills some plants were found growing. "We'll not cut these plants," the landlord suggested. "We'll let them go to seed and save the seed for next sowing. We'll cart up some soil from the lower parts of the field and spread it about these patches and in a year or two we'll have all the stuff growing here that we want."

When the harvest came the barley was threshed on the top of the hills. The straw supplied the bedding for the hogs

and acted as a sufficient covering along with a judicious use of boards and poles for the hog pens. By Christmas the first turnover in hogs had been made. By spring a second sale of hogs had been made. Along with the profits from the hogs in the way of cash returns was a fine pile of manure which was plowed into the soil that had not done well with the seeding of the previous year. By the end of the second harvest the clay hills were yielding fine crops of sweet clover and alfalfa, their average being about four tons to the acre.

"What do you think of the old farm now?" queried the landlord. "Do you think you can make it go? If you care to take it over I'll have to raise the rent two hundred dollars a year. I'll help you to put up more buildings on those hills for the hogs will never even begin to eat all the hay you'll grow there, and for a few years we want to build up that soil."

"There is a small fortune in those fields for alfalfa and sweet clover seed alone," he added.

By investing less than three hundred dollars in actual cash this landlord transformed his farm that promised to be classed along with Goldsmith's deserted village. All over Canada where red clay hills are found, other farmers will show enterprise by copying his example.

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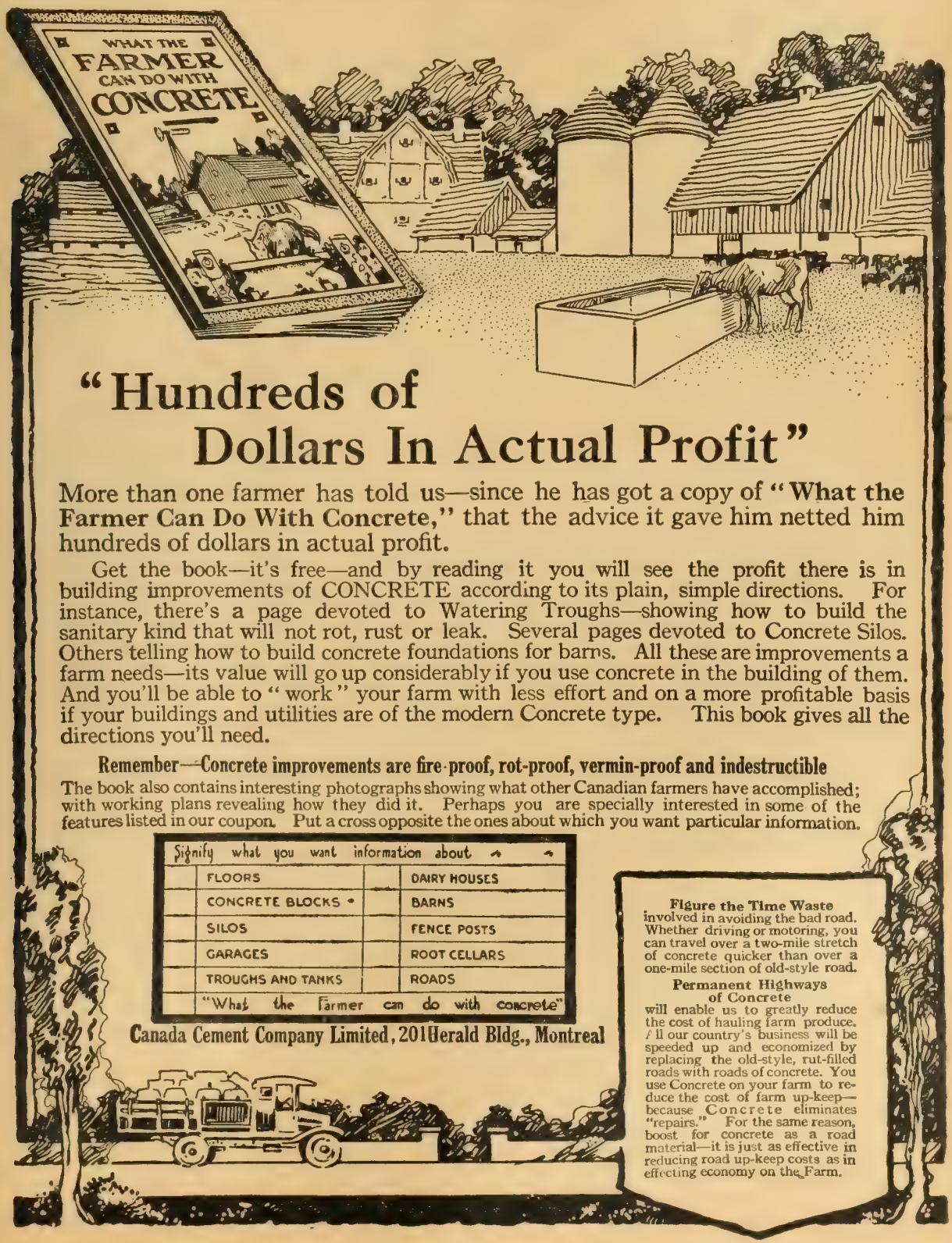

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Some Apple Trees Pay

Several old apple trees on my place, that I have not paid much attention to, had big crops of fruit on this year. This fruit was well colored, free from serious faults and sold by the basket in Toronto for 40 to 45 cents. Two trees gave me $21 each gross returns this way.—G.G.F.

Guard the Fruit Trees

Every care should be taken to protect the young fruit trees from ravages this winter by mice and rabbits. Hundreds of young trees were destroyed last winter. There is going to be profit in every bearing tree for years to come. And when apples get scarce and dear is no time to rush into planting. Be ready for the prices. Wrapping the trees with crumpled newspapers tied with binder twine is a cheap way out.

Keeping Apples

My grandfather used to have his cellar fitted up with a series of shelves at one side. These were about 2 feet wide from the sidewall and about 10 inches apart. Here he spread out his winter apples never over two deep. He kept the cellar dark and cool. Frequent examination would show any rot or disease and he always had good apples.—N.J.C.

Pruning in a Cold Climate

One cannot prune trees on the prairies in the winter as much as in a moister climate. A tree butcher who has gained his knowledge of pruning in Ontario or Nova Scotia will be a dangerous man to turn loose in Manitoba for instance. Care and watchfulness of the growing tree will make the cutting off of big limbs unnecessary.

Crows Injure Apples.

While picking Spies this year I found many fine apples at the top of the tree spoiled commercially by reason of the peckings by birds. I believe it is the crow which does it, as I have seen many of them in the orchard. I do not know any other bird that would be guilty. Maybe some reader of the FARMER'S MAGAZINE knows of others.—J.E.C.

Tussock Moth

Owing to the many complaints from orchardists of the presence of the Tussock Moth the past season, and the probability of its increase in 1918, Prof. Cæsar has described the life history of this insect and the methods of control. As one of the principal methods is the destruction of the egg masses during the winter, the full treatment is given at this time, although the spraying is, of necessity, work to be done next season. Growers who are interested would do well to get this copy for reference in the spring and early summer.

Almost every orchardist in Canada has noted the presence of this small tufted caterpillar. Send to the Ontario Department of Agriculture, Toronto, for copy of the October Fruit Branch Circular.

Ants and Aphids

Of almost fifteen hundred insects, spiders and crustaceans who have unusual amicable relations with the ants or who live in the same nest with them, none is of more interest than the common aphis. Mealy bugs, tree hoppers, lantern flies, and certain species of caterpillars also live in the same relationship, but the relationship in the case of the aphis is most apparent.

Aphids live on practically every form of plant life and on every part of the plant, including the roots, stems and leaves. They pierce the integument of the plant with their hard and sharp mouth-parts and suck the juices, which consist of water, cane sugar, invert sugar and possibly a slight amount of albuminoid matter.

The juices pass through the alimentary canal of the insect, where a slight portion is absorbed, the rest undergoing a chemical change wherein the cane sugar is turned to invert sugar or glucose. The changed plant juices are then voided through the anal opening in the form of colorless droplets.

THE ANTS' PROCEDURE

When desiring food, the ant caresses the abdomen of the aphis with first one and then the other antenna. The aphis immediately voids a droplet of honey dew, which is at once seized by the ant, who goes on to another aphis and repeats the operation. If the second aphis fails to respond the ant perceives that nothing is to be expected, since the aphis has no honey dew left at that moment, and goes on to another. Five or six such repasts are sufficient to satiate the ant, and she returns to the nest. If the aphis does not receive sufficient attention from the ants, it voids the droplet without waiting to be stroked. In this case, the droplet is ejected forcibly some distance, which is not the case when it is given directly to the ants after stimulus.

The ants sometimes exhaust the aphis' supply of honey dew and then have to wait until the aphis can pump up a fresh supply from the plant. The aphis is very generous, however, and will often yield several droplets in succession to different ants.

Some aphids have on the sixth abdominal segment a pair of tubules, and it was the idea for a long time that these

were the source of the honey dew. This has now been proved false. The excretion of the tubules is yellow and sticky and is used as a protection against the lady-bird beetle, the so-called aphis-lion, and other hereditary enemies of the aphis. When the enemy attempts to seize the aphis, the latter immediately excretes the defensive liquid from the tubules, smearing the head and thorax of the beetle with it.

HISTORY TOLD IN AMBER

It is found that the same relations existed between the ants and aphids in prehistoric times as now. Blocks of amber which are perhaps 3,000,000 years old sometimes contain the ant and aphis together, and with other evidences make it sure that then as now, the ant depended largely on the aphis for food. At present, seventeen species, including nine genera of aphids, have been observed being "milked" by ants.

Since the ants derive an easily obtained and close at hand supply of nutritious food from the aphids, it is but fair that they should render equal if not similar services to their allies. And that the relationship is mutualistic is made evident in many ways.

The ants protect the aphids in every way possible; they fight their enemies; they build tents to protect them; they carry them away to a place of safety in times of danger; they take the eggs to their own nest for the winter, see that they receive careful attention and are hatched at the proper time; place the newly hatched food purveyors where they can get an abundance of good succulent leaves and take them back to the nest in case of sudden cold weather, and at all times see that nothing is lacking for the comfort of their charges.

The aphids never try to escape, but on the contrary the females, when they desire to lay their eggs, often wait until found by ants who clip their wings (their exact reason for doing this being uncertain), and carry them into underground chambers, where the eggs are laid by the aphis and taken in charge by the ants.

The ants always stroke the aphids in the same peculiar manner and know just where to expect the liquid. The unusual care which the aphids are given often makes it possible for them to produce as many as sixteen generations during a summer, ten of which may be under the care of the ants simultaneously.

How the ants have come to handle the aphids in this manner has long been a baffling problem. Presumably the behavior is instinctive, but how did it arise? It has often been suggested that it is the result of habit which becomes hereditary —that is, an example of the inheritance of acquired character. But most of the ants which show this specialized behavior are workers, sexually imperfect females who never leave any offspring. It is, therefore, quite impossible that they should transmit their training to offspring which they do not have. On the whole, no satisfactory explanation has been suggested to account for the origin and inheritance of the ants' habits.

"Then this," asked rejected James, "is absolutely final?"

"Quite," was Dorothy's calm reply. "Shall I return your letters, James?"

"Yes, please," answered poor James. "There's some good material in them that I can use again."

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Horticulture and Gardening

Notes

Early Crawford, yellow St. John and Elberta peaches give the best results in cold storage work.

British Columbia is only affected in a small degree with apple scab, while the codling moth is practically unknown.

Only two selections have been finally retained from the 3,000 strawberry seedlings representing the first work at Vineland, Ontario.

The Annual Winter Meeting of the Pomological and Fruit Growing Society of the Province of Quebec will be held at Macdonald College December 4th and 5th, 1917. In addition to the excellent programme of addresses and discussions by prominent fruit growers and other experts, arranged by the Secretary, Mr. Peter Reid, there will be a fruit exhibition with a good prize list.

The Bean and Pea Family

The monthly Crop Report Bulletin of the United States Department of Agriculture speaks of the gratifying and unprecedented increase this year in the acreage of edible beans, plantings being more than twice as great as last year; there has been an extraordinary increase in the acreage of other cultivated legumes of the bean family.

Velvet beans, which were first introduced into Florida in the late seventies as an ornamental vine and began to be utilized about 20 years ago as a forage plant, having during the past 10 years been rapidly gaining favor there and in the adjoining States. During the last few years, due to the introduction and development of early varieties, the extension of the area devoted to their growth has been remarkable, and this year under pressure of the need for increased supplies of feed grains and forage, the plantings have extended not only throughout the States of Florida, Alabama, and Georgia, but also very widely into Mississippi and South Carolina. Its heavy production of forage and seed is coupled with great value as a soil builder, it having the property, along with other legumes, of adding nitrogen as well as humus to the soil. In 1916 the extension of the area devoted to the crop was enormously increased, largely due to the value of the new early-maturing varieties having become known to farmers. This year the acreage is probably at least fourfold as great as in 1916, having been greatly furthered by the need for increased supplies of feed and forage and by the fact that all of the velvet-bean meal produced had found a ready market.

Preliminary estimates of the field agents of the Bureau of Crop Estimates indicate that the total plantings this year will aggregate close to five million acres.

Velvet beans are planted very largely as a companion crop with corn. Until last year they were utilized principally as a winter grazing crop. The production of pods and seeds is very large, from 20 to 50 bushels per acre, and these, when ground up together, produce a valuable feed for animals, with a large percentage of protein. Small quantities of this have been ground in past years, but last year the amount ground reached very considerable commercial quantities, all of which found a ready market. The feeding value of this meal is known from practical experience to be comparable to that of cottonseed meal for cattle and hogs, and this experience is supported by a limited number of accurate experiments. In the case of milch cows it was found that about 2.7 pounds of velvet beans in the pod produced as much milk as cottonseed meal when each was fed with wheat bran and sorghum silage. As the velvet bean ration was much cheaper than the cottonseed meal, the cheapest milk was produced from the velvet bean. The crop this year is much greater than last, and it is certain that adequate provision has not been made for grinding the greatly increased supply of beans that will be available. The attention of feed purveyors and large consumers of concentrates for live stock is invited to this source of supply.

Publications regarding velvet beans may be secured by a request addressed to the United States Department of Agriculture.

SOY BEANS

Soy beans have for several years been growing to a limited extent in all of the eastern half of the United States. The total plantings this year considerably exceed 200,000 acres.

Growth for commercial seed production has been confined principally to the eastern counties of North Carolina bordering upon the Sound, grain being gathered elsewhere mainly for the home seed supply. The great bulk of the crop is used for forage. It is estimated that 60 per cent. of the crop in North Carolina will this year be harvested for the grain. In the other States mentioned, considerably less than half this proportion would ordinarily be harvested for grain, but this year the strong demand and high price for the beans, which are excellent for human food, will no doubt encourage saving of a much greater percentage of the grain for seed than heretofore.

THE COWPEA

The cowpea has long been a leading dependence in the South as a hay and grazing crop, and the green peas are a staple human food throughout the summer season among the rural farm population of the South. While the dried peas are not well known as a human food outside of the sections in which grown, they are valuable for this purpose.

As a result of the general desire to increase the production of feed and food, the total acreage of cowpeas this year is

probably considerably greater than last year, but the great increase in the acreage of the velvet bean in the southeastern States has prevented the increase that might otherwise have been expected and probably led to a decrease in Georgia and Alabama. The relative shortage and high price of cowpea seed was also a limiting factor. Like the velvet bean, cowpeas are much in favor as a companion crop with corn or some other rigid-growing forage plant which will lend support to the trailing vine, but considerable acreages are also planted for hay on land from which small grain crops have been previously harvested the same season.

Okanagan Drainage

A ditching machine is working on the Balcomo Ranch, Summerland, B.C. The land is alkali and it is hoped that draining will put it into good productive condition.

Marketing Parsnips

The digging of parsnips demands special attention. If the roots are cut or broken their value for market is largely destroyed; the entire root to a point one-fourth inch in diameter should be secured. Attempts to dig the roots out with a spade or to plow them out are sure to result disastrously. A trench should be dug or plowed close to each side of the row and the roots pulled out by hand. This is about the only practical way of securing them without injury.

Those Extra Early Potatoes

To get the fancy prices for potatoes next summer by being on the market ten days ahead of the average producer one must begin now. The method suggested is not set forth for the one who grows extensively, but one will be surprised at the returns obtainable by a little extra care.

Ground for such an early crop needs to be rich, deep, mellow and well-sheltered, and warm and dry. The preparation of the soil consists in digging deep and burying in the bottom of the trench thus made a very liberal supply of corn stalks cut relatively fine or strawy manure or even straw itself. The ground dug up is thrown back about a foot from the trench whence it has been dug. The ground between the trench and the soil that has been thrown back is then liberally manured. The ground next dug is thrown on the ground manured, and a new supply of roughage is trampled into the new trench. This process is repeated till the whole patch has been worked over. When potatoes are planted on such a patch of ground they grow very rapidly and give a surprising yield. Being ready for early digging, they leave the ground in an ideal condition for celery or cauliflower or cabbage. Unless one has given this method of soil preparation a fair trial, he is not aware of its effectiveness. The small gardener, or the farmer who has a small area on which he wishes to grow vegetables of specially fine quality, will find that the method of soil preparation here outlined is the method that insures success, as far as cultural practice is concerned.—A.L.K.

Willie.—"Pop, what are ancestors?"

Father.—"Well, I'm one of yours—and your grandad is another.

Willie.—"Oh, but why is it that folks brag about them?"—*Everybody's Magazine.*

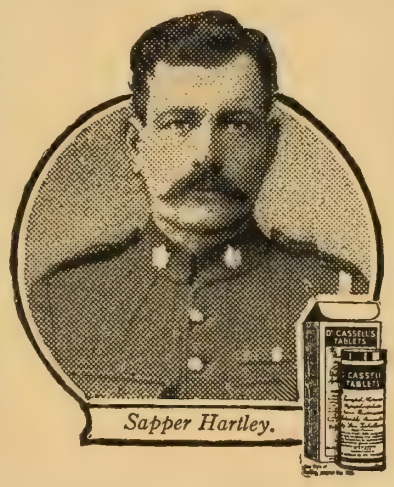
BOVRIL

Repels Colds, Chills, and Influenza

Kept Fit Through Two Wars

Ontario Sapper Praises Dr. Cassell's Tablets.

That a soldier should use and praise Dr. Cassell's Tablets is clear proof of the wonderful sustaining power of this great strength-giving medicine. And thousands of service men on land and sea are trusting to Dr. Cassell's Tablets to sustain them through all the hardships of relentless war.



Sapper Hartley.

SAPPER A. HARTLEY, OF THE A. COMPANY, CANADIAN ENGINEERS, whose home address is **906, TRAFALGAR-STREET, LONDON, ONTARIO,** is one of many who have written in praise of Dr. Cassell's Tablets. He says:—"As a constant user of Dr. Cassell's Tablets I would like to add my testimony to their value. I used them when I was in the South African War, and, finding the benefit of them there, have taken them since whenever I felt run-down. I always recommend them, for I know they do all that is claimed for them. In my opinion they are the best tonic anyone can take for loss of appetite, poorness of the blood, or general weakness of the system. We have had a lot of hard training here, and some time ago I began to feel the strain, but I got some Dr. Cassell's Tablets, and the boys are surprised at what a difference they made in me. I mean to have some with me always on active service."

Dr. Cassell's Tablets put new life and vigour into weak, overstrained people. They nourish the nerves, enrich the blood, strengthen the general system, and create that snap and fitness which make life a joy. Take a course of them, and health and vital energy will soon be yours.

Dr. Cassell's Tablets

FREE SAMPLE.
On receipt of 5 cents to cover mailing and packing, a generous free sample will be sent at once. Address: Harold F. Ritchie & Co., Ltd., 10, McCaul-street, Toronto.

Dr. Cassell's Tablets are Nutritive, Restorative, Alterative, and Anti-Spasmodic, and the recognised remedy for

Nervous Breakdown	**Sleeplessness**	**Mal-nutrition**
Nerve Paralysis	**Anæmia**	**Wasting Diseases**
Infantile Weakness	**Kidney Trouble**	**Palpitation**
Neurasthenia	**Dyspepsia**	**Vital Exhaustion**

Specially valuable for nursing mothers and during the Critical Periods of life.

Sold by Druggists and Storekeepers throughout Canada. Prices: One tube, 50 cents; six tubes for the price of five. War tax, 2 cents per tube extra.

Sole Proprietors: Dr. Cassell's Co., Ltd., Manchester, Eng.

Man-Size Conversation

Something about Jones—The Test Question that Silenced Jennings—Where Jones gets the information that makes him listened to when he speaks.

AFTER the little group had finished their cigars, and were about to separate, each going his own way, Brown said to Smith: "Wasn't Jones great? And didn't he put it all over Know-It-All-Jennings?"

It was just such a group of men as you see gathered every day round a luncheon table, or in the club lounge; and the theme of the conversation was likewise common enough — the present business situation, and the probable situation when Peace is made.

At first every man had opinions to declare, but most of all Jennings. Jones was, at the beginning, the silent one. But at a point when Jennings, with his usual cocksureness, was voicing some extravagant views, Jones rather jolted him by asking him, "What is your authority?" And Jennings didn't have authority —nothing more than opinions.

It was then that Jones began to talk, and his tactful, well-informed views and statements instantly commanded the attention of every man round the table; for every man was learning. Even Jennings had the grace to keep quiet, for he knew he was listening to a better-informed man.

Jones has a staggering question to put to men with opinions which they express boldly and confidently. It is: "What is your authority? Your opinions are no better than your information." The average man expressing opinions doesn't possess much solid information; he just "feels" that way.

Every man not an idler is interested in Business—first, in his own business; second, in the Nation's business. Whether he be a retailer in a country town; or a manufacturer; or a lawyer advising clients on investments; or a bond-dealer needing to know much about the many factors that affect prices; or a banker; or a private investor whose funds, invested or waiting investments, are his main source of income; he is interested in Business, and he needs information -the real stuff which is the basis of opinion. Where can each get the kind and amount of information desired?

Let him get it where Jones gets much of his information -from THE FINANCIAL POST OF CANADA.

Jones does a good deal more than just pay $3 to get this paper every Saturday; he reads it. To him the POST is the newspaper prized most of all. He sets aside a certain set time each week for reading it. It satisfies him because its views are based on information, and information is the POST'S chief material.

The POST keeps Jones soundly and broadly informed about the business affairs of the country. He finds that the POST takes a business-like view of all questions; that it is not influenced by any political factions or "interests," that it tells the truth, whether the readers like it or not. He knows that little of importance will occur in connection with the business of the country without enlightening information or comment appearing in the POST.

He gets the best-informed news about listed and other securities, in the POST:—Milling, Transportation, Pulp and Paper, Iron and Steel, Electrical Enterprises, and so on. This weekly Security News he finds of an authoritative character—usually signed—prepared by specialists, who, from the nature of their daily work, are in intimate touch with the factors that affect prices, and with high-up or well-informed men who have knowledge. Jones finds no other paper in Canada attempting to give the service the POST does in relation to listed securities. Jones finds the POST'S editorial page stimulating. He enjoys the biographical stories of Big Men which appear in the POST. The article each week by Agnes Laut gives him information gathered by one of the best informed and highest paid writers in America. In short, for Jones the POST is a treasury of information about Business.

If you want your opinions to be well-informed; if you want a wide knowledge of Business; let the POST go to your home each Saturday. Sign the coupon below. Send no money now. Have the bill go forward in the usual way.

The Financial Post
OF CANADA

The MacLean Publishing Co., Ltd.,
143-153 University Ave., Toronto.

Send me THE FINANCIAL POST, for which I will pay $3.00 per year on receipt of invoice.

Name .....

Address .....

Investments and Insurance
For the Farmer

Grant Buys a $1,000 War Loan

(*Continued from page* 11)

his bonds are to be sold for him. Supposing his bonds to be "bearer" bonds ("payable to bearer") no red tape attaches to the transaction. It becomes about as simple as passing a dollar bill which is a "payable to bearer" document.

It requires to be said, however, that whereas the value of a dollar bill is always a dollar—no more and no less, the exchange or sale value of a bond varies according to the nearness or remoteness of its maturity date, the relation of the interest named in it to the prevailing rate of interest, and the general condition of the money market. A few years ago—before the war—Government bonds were issued to yield interest at 3% or 3½%. Now it is clear that if the holder of one of these low-interest bonds were to sell his bonds to-day he could not get "par" or their "face-value" price for them, for the obvious reason that money is worth more these days. He would probably get something near $65 for his $100 bond. This looks like a heavy loss; but it has to be remembered that this $65 can be immediately invested in bonds yielding 5½% interest, $65 earning 5½% is about the same as $100 earning 3½%. So there would really be no loss incurred in selling a $100 bond paying only 3½% for $65 or thereabouts, which sum can be reinvested at 5½%.

VICTORY BONDS WILL PROBABLY BECOME WORTH MORE THAN THEIR COST

The chances are that these Victory Bonds paying 5½% will "go to a premium," as it is called; that is, a $100 bond may be worth $110 or $112 in a very few years. In this event, the purchase of Victory Bonds would prove a most profitable use of money.

The reason why Victory Bonds may have a value in excess of "par," or their face value, is this: After peace money to borrow may become cheaper; that is, Governments may be able to borrow money at much less than 5½%—perhaps at 5% or 4½%. So a government security yielding 5½% when the prevailing rate is 4½% or 5% is worth more money than a security of equivalent denomination paying only 4½% or 5%.

Money is high-priced now, just as wheat and beef and cheese are. When the big demand for money begins to decline, as it will after peace, and when production begins as formerly all over the world, money is likely to become cheaper—obtainable by our Government for 4½% or 5%.

After all this had been made clear to Grant he was satisfied that if he bought Victory Bonds he would have little trouble in turning them into cash at any time.

Grant wanted to know if he could borrow money on his bond if he wished to do so; and it was explained that any bank in Canada will lend him promptly 90% of the face value of the bond. That is, Grant would be able to give the bank collateral security for money loaned. He would not have to go to some friend to endorse a note when he has Victory Bonds to leave with the bank.

The bank will charge interest on the money loaned, of course—6% or 7% probably; but against this interest goes the interest which the Bond is earning; so that the interest the bond earns will pretty nearly equal the interest the bank will charge for loaning the money. Thus Victory Bonds become a fine type of collateral security.

This point was impressed on Grant: bank managers form a high opinion of the man who is able to take to them Victory Bonds, for the possession of these bonds is evidence of a thrifty man, of a prudent man, of a man who can and does save. Banks are always more ready to loan money to men who can provide them with evidence that they are investors in a good type of security. A bank manager would look very doubtfully at the offer of mining shares as a form of collateral security, and would probably refuse to lend money on them as security; and he would be a little afraid of the farmer who offered them. But when Victory Bonds are offered nothing more acceptable can be desired.

The possession of a type and form of security that can be taken at any bank as security for a temporary loan is very comforting. It may happen several times a year that a farmer has immediate need for ready money which he has not in the form of cash. At such times, without trouble or delay, he can get the needed amount by depositing a Victory Bond or Bonds to cover the sum borrowed.

WHAT ABOUT FIRE OR THEFT?

Grant wanted to know about the possible loss of bonds he might buy as a consequence of fire or theft.

It was explained that if a bond were destroyed by fire or other cause and the destruction could be satisfactorily established, the owner would continue to be paid his interest, and in the end, at the maturity date, would have the face value of the bond or bonds repaid him in cash. At the same time it was urged on Grant that he ought to take very great precautions to safeguard his bond or bonds—this by depositing them with his bank for safe keeping, or place them in a safety deposit vault in a nearby city, if this is convenient. Banks will, if requested, receive from their customers bonds for safe keeping, and will give the owner a receipt for them. They will also, if instructed to do so, clip the coupons when due and credit them to the customer's account. So when bonds are given to banks to be their custodians they are in safe hands. Certainly, it is unwise for any man,

farmer or city man, to keep bonds or other documents of value in his own house unless he has a dependable safe.

A bond, if and when stolen, if of the "payable to bearer" type, is pretty much in the position of a dollar bill when it is stolen: the bearer, even though he be a thief, can easily dispose of it and there is not much chance of detection or recovery of the stolen bond, even though the original owner has the number of it.

BONDS CAN BE REGISTERED

Grant was informed that since he was putting $1,000 into Victory Bonds he could have a "registered" bond if he preferred. A "registered" bond, it was explained to him is a bond without any coupons attached, and with one's name written therein and thereon. In the case of a registered bond, the Government deals direct with the owner, sending him each six months a cheque for the interest due, which cheque can be cashed at par at any bank in Canada. A "registered" bond can be sold or transferred only through the Government. Bonds registered both as regard principal and interest are not issued for sums of less than $1,000. The bonds of smaller denominations, however, can be registered as regards principal, but not as regards interest. That is to say, the bond itself is registered in the owner's name and the owner is, therefore, safeguarded against loss, theft or fire, so far as the principal is concerned, but the coupons cannot be registered, they are always payable to bearer as in the case of the unregistered bonds.

BONDS CAN BE PURCHASED ON THE INSTALMENT PLAN

When Grant had decided to put $1,000 into Victory Bonds he was told that he could pay for it on the instalment plan—with payments spread over 5 months:

10% on December 1, 1917.
10% on January 2, 1918.
20% on February 1, 1918.
20% on March 1, 1918.
20% on April 1, 1918.
20% on May 1, 1918.

And that a full 6 months' interest would be payable on June 1. It really meant, it was pointed out, that because of the instalment payment plan, Grant would be getting at the rate of 8% or so for the first 6 months.

5, 10 AND 20 YEAR BONDS

It was likewise pointed out that Victory Bonds are issued in three maturity dates—for repayment of the bonds at the end of 5 years, 10 years, or 20 years. Grant wanted to know why this was, and what class of bond was best for him to buy—a 5-year or a 10-year, or a 20-year bond?

It was explained to him that some purchasers prefer short-term bonds, because they may want to use their money soon again—in their business, or for reinvestment in some other type of security. So for these the 5-year bonds are issued; and for the same reasons the 10-year bonds are issued. It was pointed out that the 20-year bonds would probably be the best for him to buy if he were not likely to want his money before that time; that insurance companies, for example, always go in for long-term bonds, especially when the rate of interest paid is high; that bonds for terms of 30 and 40 years or even longer, are preferred by big investors who want to get and keep their money invested without trouble or anxiety. Also

THE CANADIAN BANK OF COMMERCE

SIR EDMUND WALKER, C.V.O., LL.D., D.C.L., President
SIR JOHN AIRD, General Manager
H. V. F. JONES, Ass't. Gen'l. Manager

CAPITAL PAID UP, $15,000,000 RESERVE FUND, - $13,500,000

EACH DOLLAR SPENT ON NON-ESSENTIALS WEAKENS THE EMPIRE'S GREAT CAUSE.

Place your surplus earnings in our Savings Department where they will earn interest at the rate of 3% per annum. 13

CHRISTMAS, 1917

This is a time when all men rest awhile—a time of family reunion—a time to consider matters requiring "setting right."

To the man having the real well-being of his family at heart, what could be more appropriate at this season than the timely consideration of protecting their continued welfare and happiness by LIFE INSURANCE.

In the contracts of The Great-West Life Assurance Company all this is provided and more. A man does not necessarily have to "die to win," but may be reassured of comfort in his old age at the same time. Rates are low and the profit returns being paid to policyholders are the highest.

THE GREAT-WEST LIFE ASSURANCE COMPANY
DEPT. "W" Head Office—WINNIPEG

A Cheque for Fifty or a Hundred Dollars
Would be a nice Christmas Gift

And it would please you if you knew you would receive one every Christmas Day as long as you lived, beginning when you were fifty.

Let us tell you how you may receive these cheques. Write

Head Office, Toronto Dept. M. EXCELSIOR LIFE INSURANCE CO., TORONTO

Build Concrete Silos

Dwellings of any class of buildings from Concrete Blocks. THE LONDON ADJUSTABLE BLOCK MACHINE makes all sizes and designs of Concrete Blocks. Price $65.00. Send for catalog No. 3.

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World's Largest Manufacturers of Concrete Machinery.

PATENTS

Write for how to obtain a patent

list of Patent Buyers and Inventions wanted. $1,000,000 in prizes offered for inventions. Send sketch for free opinion as to patentability. Our Four Books sent free. Patents advertised Free. We assist inventors to sell their inventions. FREE

VICTOR J. EVANS & COMPANY
699 Ninth Street, Washington, D.C.

Keep Open the British Market For Canadian Farm Produce

To realize how necessary the British market is to the Canadian farmer, consider what would have happened to Canada's forty million dollar cheese output in 1917 if Great Britain could not have bought cheese in Canada on credit.

The American market could not absorb it. The United States had a surplus of their own. The British market was the only one. But Britain could buy only on credit.

So Canada's Government loaned $40,000,000 to Britain with which the Canadian producer was paid cash for his cheese, which was sold at about twenty-one cents a pound.

Without that loan Canadian cheese could not have been marketed.

So much for cheese alone.

And it is equally important that the British market be kept open for all of Canada's farm produce.

* * * *

Now Canada must borrow from the people of Canada, the money with which Canadian producers are paid.

This money is borrowed from the people on bonds.

Bonds are Canada's promise to repay the loan at a stipulated time with interest every six months.

The security is the whole country, and the interest rate is good.

Canada's Victory Bonds are to be offered in November to obtain money with which to extend credit to Great Britain and with which to carry on Canada's part in the great world's struggle for freedom from autocracy and tyranny.

Every clear visioned Canadian farmer will easily see the importance of this bond issue being completely successful.

It means the maintenance of your best market.

It means substantial, patriotic support to Great Britain and our Allies.

And it means that Canada will continue to take her full part in the war.

Get ready to buy Canada's Victory Bonds

Issued by Canada's Victory Loan Committee
in co-operation with the Minister of Finance
of the Dominion of Canada.

it was pointed out once more to Grant that 10 years or 20 years hence it might be difficult to get Government bonds—the highest possible type of security—paying 5½%; that the probability would be that Government bonds will 10 years or 15 years hence bear interest as formerly in the pre-war years—at 3% or 3½% or 4%. So Grant saw that a 20-year bond was probably the best to buy; and especially so in face of the likelihood that before its maturity its value in the open market will go to a premium—a $100 bond becoming worth perhaps $110, and $1,000 bond worth $1,100. So Grant bought a 20-year bond.

BUT GRANT WAS A SLOW BUYER

The man who canvassed Grant found him a reluctant buyer. At the beginning Grant was not familiar with bonds, and so was not very responsive to the appeal to invest in this type of security. But over and above this obstacle was Grant's failure to understand the patriotic appeal.

At first Grant didn't want to put a red cent into the Victory War Loan, because he didn't want to encourage the continuation of the war for a single minute. "Let Europe settle her own quarrels without us" was and is his attitude, and there are lots of farmers who think like Grant.

But it was pointed out to Grant that subscribing to the Victory War Loan was not merely a patriotic and dutiful thing to do, but that it was also a cold-blooded business proposition to support this loan. Grant wanted to know how and why, and the canvasser of him tried to make it very clear.

"Mr. Grant," said the canvasser, "suppose a man came to you to buy a horse from you, and you had one to sell, for which you wanted $250. 'All right,' said the horse buyer, 'I'll give you $250 if you lend me the money to pay for it.' You might think that a fool bargain. But if the horse-buyer said to you, 'Mr. Grant, I haven't any ready money, but my credit is good. I'll give you a perfectly good promissory note, bearing interest at 5½%, for the money I need to buy the horse, and I'll put the $250 I borrow from you back into your hands immediately. So you'll have the money and my note, and I'll have the horse.' You'd say, 'Well, that doesn't look so bad after all. If your note is satisfactory to my banker, I'll sell you the horse on those terms.'

"But suppose, Mr. Grant, you said, 'No, I want $250 cash for that horse, and I won't enter into any money-loaning transaction'; then the horse-buyer would say, 'Sorry, Mr. Grant, but I've no ready money, and I can buy only where I can borrow. Good-bye'; and that he went straight to your neighbor, and made the same proposition to him; and that your neighbor took up the proposal; and that you found yourself with the horse remaining on your hands, eating up good and expensive feed, and taking a lot of time to look after; and its value declining all the time, because the market for horses was slackening off. In such case, Mr. Grant, I think that you would wish many times that you had taken the offer made you by the horse-buyer.

BRITAIN BUYS WHERE SHE BORROWS

"Now, Mr. Grant, this is exactly the position in reference to this war loan. Britain cannot send money over to Canada. All she has to offer us or the United States is promissory notes or their equivalent. She wants our cheese, bacon, beef,

"This is the Kind of Horse the Government wants"

No horse with a Spavin, Splint, Ringbone, Curb, Bony Growth, Capped Hock, Wind Puff, Strained Tendon or Sweeney can now pass the keen-eyed Inspectors of the Government Remount Stations.

Splendid-looking Horses—otherwise sound—are being turned down because of some blemish that could be quickly cured with

Gombault's Caustic Balsam

Here is your chance to make money for yourself and at the same time to help in the Government's great Thrift and Production movement.

Put your horse into condition with Gombault's Caustic Balsam. A safe and reliable remedy.

Gombault's Caustic Balsam if applied immediately after burns, bruises or cuts, is a perfect antiseptic—soothing and healing. An absolutely safe, external remedy for man or beast.

Every bottle of **Caustic Balsam** sold will surely give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by parcel post with full directions for its use. Send for descriptive circulars, testimonials, etc.

THE LAWRENCE-WILLIAMS COMPANY
TORONTO, ONT. 20

HAS 1917 BROUGHT SUCCESS?

Now that the year is drawing to a close have you figured out the profits of your farm? **ARE YOU SATISFIED?**
If you feel that you should be doing better—should be getting bigger returns for all your work—**why not consider the possibilities of Western Canada?**

Write for any or all of our free booklets, "Homeseekers & Settlers Guide," "Peace River Guide," and "British Columbia Settlers Guide," to General Passenger Dept., Montreal, Que., or Toronto, Ont.

CANADIAN NORTHERN RAILWAY

Very Good News

for Subscribers to

FARMER'S MAGAZINE

BEGINNING February 1st, 1918, FARMER'S MAGAZINE will become a semi-monthly---24 issues per year for your dollar instead of 12 issues as it has been for years past.

THE reasons for changing to a semi-monthly are two: (1) We are under necessity to provide more reading matter for our subscribers; (2) Our advertisers want more frequent issues, especially those whose selling season is short.

The occupation of farming is becoming more and more of a business. These war times have called upon all farmers to produce more. So it becomes our duty to devote much more attention to the problems of how to produce more—this in the light of the scarcity of labor. Also there is the higher cost of farming to be taken into account—the higher cost of tillage, feeding, labor, implements, and stock.

The selling or marketing side of farming calls for fuller study.

In short, the business of farming is fast becoming so exacting that, to succeed, the farmer must become a well-informed man, a real student, and a very astute man. The days when brawn and luck were the chief reliance of the farmer have gone forever in Canada, and a new type of farmer and farming has come and will remain.

Woman's Part

Woman's part in farming—her care of the home, her provision for those who toil and eat, her gardening, her participation in dairying and poultry-raising, her rearing of her family, the making of the home a place of comfort and culture—all these things must be dealt with in generous space.

RATHER than make the monthly issues larger, it has seemed best to us to double up the number of issues. So beginning February 1st, FARMER'S MAGAZINE changes from a monthly to a semi-monthly. Publication dates will be the 1st and 15th of each month.

In our November issue we said that the price might be raised. Now we are able to make the remarkable statement that the price will continue to be **One Dollar** for a time at least. It means that subscribers get double value for their money. However, we trust to win many new friends because of the larger value to be given and to hold all old friends more firmly than ever.

An Excellent Christmas Gift for $1

Isn't there some friend living on a farm to whom you wish to send a gift this Christmas? No gift is likely to be more acceptable than a year's subscription to FARMER'S MAGAZINE, with its frequent arrivals and its wealth of entertainment, information, stimulus and uplift. Just as you enjoy and profit by FARMER'S MAGAZINE, so will the friend, man or woman, to whom you may send it as a Christmas gift. Use the form below:

The MacLean Publishing Co., Ltd.,
143-153 University Ave.,
Toronto.

Send FARMER'S MAGAZINE for one year's subscription to begin with the February issue to.....

.....

Please advise this subscriber of the subscription, of the name of the sender, as per name following. The Dollar in payment of the subscription is enclosed.

Signed.....

Address.....

Bacon Is A Military Necessity

Bacon is the most compact form in which meat and fats can be supplied to the armies.

It takes up the minimum of space in freight cars, ships, transport wagons and in supply depots at the front. It is easily handled, and it keeps.

Bacon, on account of its large percentage of fat, is the great outdoor food. Men who work and travel hard, sleep in the open air, and are exposed to the wet and cold, require a large amount of fatty foods, because such foods best supply the nutriment, the energy and the heat-producing qualities necessary. Bacon fortifies the body against exposure, repairs the wear and tear of hard work and is easily digested. It is also easily and quickly cooked.

The Allied Armies require enormous supplies of bacon, the British Army ration allowing ¼ pound per man per day. With the United States raising great armies, the demand for bacon will be still further increased. Where is the supply to come from?

32,425,000 Hogs Short

There is a shortage of 32,425,000 hogs in Europe. The hog population of the United States is 10% below normal. The number of hogs slaughtered in Canada in September, 1917, shows a decrease of nearly 27% compared with September, 1916. Despatches from Denmark state that the total prohibition of exports of pork products is anticipated in order to insure an adequate supply of meats and fats for the Danish population.

The situation is serious. The armies must be assured adequate supplies of bacon. A great increase in the production of hogs in the United States and Canada is a military necessity.

Save the Young Sows

Young sows which are slaughtered now only produce about 150 pounds of meat per sow, whereas each of these sows, through her progeny, could produce at a moderate estimate 1,500 lbs. of meat within a twelve-month period.

The United States has committed itself to greatly increase its hog production. Canada will do her share. Every pound of pork that can be raised is urgently needed.

The Dominion Government and the Provincial Governments are co-operating to encourage greatly increased production in hogs and to safeguard the growers.

Already steps have been taken to control the spread in price between that received by the producer and that paid by the consumer. The grower is assured his fair share of the price paid by the consumer.

The Flour Mills are under a form of license and allowed a profit of 25 cents per barrel on the flour only—the bran and shorts will be sold at cost, and are to be free from adulteration.

The huge United States corn crop is under effective American control to prevent speculation and to insure none of it going to Germany. There will be an abundance of feed from this source as the 1917 crop is 600,000,000 bushels greater than last year's.

The buying of the meat for the Allies will all be done by the one Commission representing the Allies which will be an influence in stabilizing the market and preventing wide fluctuations in price.

The great shortage of hogs in Europe and the vast demands of the Allied armies for pork products indicate a bright future for the swine industry in Canada.

There is individual responsibility, and every man who can raise hogs should seriously consider the possibility of raising one or two extra litters in 1918.

Dominion of Canada Department of Agriculture

LIVE STOCK BRANCH

OTTAWA

14

The Science of Healing

The war has revealed many wonderful advances in the realms of medicine and surgery, and the percentage of recovery among wounded soldiers is very high. Cases that, a few years ago, would have been deemed quite incurable, yield to the skill and resource of the modern army doctor.

And much of this is due to the organization for prompt treatment. It has been shown that speed in the treatment of wounds is of vital importance, and for this reason the members of the Army Medical Corps, in their work of mercy, display almost superhuman courage and coolness in dressing wounds under fire of the enemy's powerful guns.

This element of promptness in the treatment of an injury is also equally important at home as well as at the battle-front, for an amazing number of accidents occur in the most peaceable occupations.

Of inestimable value in such emergencies, and quite indispensable to the family medicine cabinet is Dr. Thomas' Eclectric Oil. This is the time-tested remedy that can be applied with equally good effect to both man and beast in treating all manner of cuts, burns, bruises, scratches and sprains.

No household should be without Dr. Thomas' Eclectric Oil, for its prompt use will save many a dollar in Doctor's bills and prevent minor ailments and accidents from developing into serious disorders.

If the wife scalds or burns herself while working around the stove, apply Dr. Thomas' Eclectric Oil. Do the same whenever any of the family or any of the domestic animals sustains any sort of an injury, such as scratches, sprains, cuts or bruises. And do the same for coughs, colds and sore throat.

Apply it promptly and according to the directions that go with each bottle. It is the "stitch in time" that "saves nine."

25 Cents a Bottle.

Ask your dealer for it by name and see that you get the genuine Dr. Thomas' Eclectric Oil.

It is manufactured solely by

Northrop & Lyman Co., Limited

TORONTO, ONTARIO

What Do You Do With Your Spare Time?

Would you be willing to sell it to us? We will buy it at a much better price than your present employment is netting you.

An hour or two in the evening at just the time when people are thinking of reading—but have nothing new at hand, will annex a handsome addition to your income.

Let us tell you about it—a postcard will do. Address—

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Limited
143-153 University Ave., Toronto, Ontario

hides, wheat—pretty nearly all we can produce. She is willing to give us shell orders, and orders for steel ships and materials and supplies of all sorts, and many manufactured products. She says to us: 'Canada, if you will lend me the money to pay for these goods I am ready to buy from you; I'll buy these goods, pay you your own price for them, and hand back to you instantly the money I ask you to lend me. So you'll have the money to put back into circulation—to pay for materials and labor, and to keep up to the high mark your production enterprises; and you'll have my note at 5½%.'

"Now, Mr. Grant, in the return of the $150,000,000 which the Government wants to borrow to finance the purchase of materials of all descriptions, business in Canada will be kept good, and we will all keep on prospering as we have been—farmers among others.

"But if we do not loan the money required to finance these war purchases for Britain she will have to go to our neighbor, the United States, and her purchases of wheat and bacon and beef, of steel and everything else will be made in the United States, and that country will prosper, and our prosperity in Canada will decline.

"I tell you, Mr. Grant, you farmers, retailers, manufacturers, employees—everybody—should subscribe every cent possible to this Victory War Loan for selfish reasons, if for no other. And if we raise $300,000,000 instead of the $150,000,000 asked, it will all return to us in orders and more orders, thus ensuring the longer our national prosperity. If we subscribe, every man jack of us, if it be for only a $50 bond, we will be doing a mighty good thing for our own pockets. And if you and other farmers, and retailers, and manufacturers, and the common people, do not subscribe generously and promptly, be sure that it will drive Britain out of the Canadian market into the United States; and then will we waken up, and wish to God we had been clearer visioned.

"I am putting it bluntly and honestly, Mr. Grant. Only 40,000 subscribed when the previous Government war loan was floated. We want 150,000 to subscribe to Victory War Loan. We want the $50 subscriptions just as earnestly as we want $1,000 subscriptions. If you don't and won't subscribe for patriotic reasons, subscribe for selfish reasons—for the ensurance of a continued profitable market.

"You are not being asked to donate money, but to loan it. And you have the satisfaction of knowing that you are saving money easily and in a fine way; and the money thus saved is at your command to use as you like, at any and all times."

* * * *

And so Grant signed up for $1,000.

INSURANCE

Insurance Returns

An easy mind is an asset to the farmer who has a right thereto. The farmer who is in a position to replace his buildings should they be destroyed by fire may well ask himself if it is good business for him to insure his buildings against loss in the event of fire. It is a matter for him to consider and to work out on good principles. There is no guarantee that he will ever cash in on his policy. A relatively small proportion of the farm buildings of the country is destroyed by fire. His buildings may never be of this number. On the other hand, he may be the farmer who will see his crop and buildings go up in flames and it will be small comfort for him to know that the buildings of one thousand other farmers remain intact. It is in this contingency that the cheque from the insurance company is a messenger of hope for coming days. To know that even should all his buildings be burnt that the catastrophe will not be a total loss is a comfort that the average farmer will hesitate to forego.

There are times when the contents of one's buildings are of special value. When the harvest is all in and the grain unsold the barn contents are more valuable than when the grain bins and the mows are empty. When the stables are full of fatted cattle or with a dairy herd or when the hog pens are filled to capacity the contents have a different value from the times when the byres contain nothing but air and sunshine. Is there not a suggestion in this of the need of special insurance of "contents." Yet how few farmers profit by the peace of mind consequent upon heeding it!—J.K.

QUESTIONS

Rural Credits

The series of articles on Rural Credits in Canada which was announced to begin in this issue has been held over until the January issue.—*Editor.*

The War Loan

A.C.R., Ontario.—If I subscribe to the war loan in Canada can I secure loans on these bonds at any time if I should need money in my farm business?

Answer.—There is no better security than these Victory Loan bonds. Any bank will lend you money on them or you can sell them in the open market probably for a little better price than you gave for them. The loan is really as good as liquid capital.

Investing in Pure-breds

C.O.H., New Brunswick.—Would you consider it a good time to invest in pure-bred animals to build up a business now that times are good? Is there much risk in it? I prefer cattle and sheep

Answer.—The time, in our opinion, was never better for starting a pure-bred herd or flock. The war is not over; and, at its end, the scarcity of breeding animals will be most acute. Undoubtedly Canada and the United States will be called upon to furnish breeding animals to the rest of the world. In the cattle line, you would be well advised to go easy. Buy a few of the best females you can get, and then breed them along the best lines of blood that you can learn from the experience of others. Study all you can on the breeding of farm animals and grow gradually into your business. One cannot jump into the profession of breeding like he can into mining stocks. We have already too few real breeders in Canada. Most of our men are mere dealers and good salesmen. In the matter of sheep, the situation is much easier to handle. Take one of the recognized breeds and improve it, in hardihood, size, wool quality and prolificacy.

Christmas Gift Suggestions

Continued from page 20.

Practical and attractive pieces of handwork—an apron made from four handkerchiefs, and a child's knitted jacket.

childhood; we are going to need well developed, all-round men and women in the next decade; but the lavish array of meaningless playthings frequently found in our homes on Christmas morning is not only extravagant, but harmful to the children. The goods for a dress, a set of furs, or a fur-lined coat if they are needed, a writing desk or kitchen cabinet or chair, or some other article of furniture for which

The mother of a baby will appreciate this little garment of cream flannel with touches of embroidery.

we have been waiting, is a legitimate investment if we can afford it.

If your family care for books—and if they don't it is time to begin to cultivate the fondness for good reading now — Christmas is a very good season for starting a home library. Few other attractions, excepting music, perhaps, do so much toward keeping a family eager for evenings at home. Even the very young children should have their collections beginning with such classics as "Mother Goose" and "Alice in Wonderland."

Another excellent gift for each child in the family this year is a war certificate. Of all wise investments these are of the most far reaching economy, and when their significance is explained the young people will be more proud of them than of any less permanent possessions.

GIFTS FROM THE FARM TO CITY FRIENDS

The woman living on a farm is usually pretty busy. It is far more difficult for her to find time to sit down for an hour or two every day to crochet or embroider some elaborate piece of handwork for her friends than it is for the average woman in town. Fortunately, however, the woman on the farm has in her possession things which the family in town would appreciate far more than the finest of hand-work. A chicken dressed for the oven, a "Waldorf salad basket" made up of a bunch of celery and bright red apples, with a bottle of cream for the dressing, a small jar of butter with a sprig of holly or bright red leaves outside the wrapper, a jar or two of home-canned fruit or pickles, or a collection of home-made jellies tied with red ribbon and a sprig of holly; a dozen new-laid eggs—any of these, apart from their money value, which is considerable this year, and their quality, which is not duplicated anywhere in the shops, carry a breath of the country which cannot fail to be appreciated. A Christmas wreath for the door or window, made from evergreens with touches of bright maple leaves and red berries from the woods, is a novel gift, and may be made far more beautiful than those usually sold by florists. By twining in a few sprigs of wild myrtle the perfume from the wreath will be another of its charms.

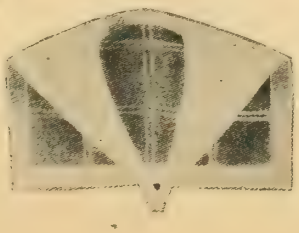
Everyone is trying, or should be trying, to save food this year. We could not, conscientiously, fill our pantries with the huge loaves of Christmas cake and mince pies which in other times were not only indispensable to the holiday season, but made a part of the daily fare for weeks afterwards; yet it would hardly seem right without enough Christmas cake to serve our passing visitors from Christmas until New Year's Day at least. On the farm we have some of the cake materials, cream and butter and eggs, right at hand —it is true we could sell them for a considerable sum, but if we want to give something worth while to a friend in town, or to a girl or boy in college or boarding away from home, we could not do better than make our usual cake supply into small cakes, ice them with a simple thin white icing, and decorate them with a few bits of holly. A real mince pie would also be a treat to most city dwellers. And if any of these delectable farm produced foods are to be prized in well-to-do city homes, a basket made up of a variety of things as illustrated will be more than welcome to a poor family in the community where even the necessaries of life are stinted.

PRACTICAL HANDWORK GIFTS

While the need of shirts, socks and other knitted garments for the soldiers does not allow of spending time on elaborate fancy-work, there are many dainty and useful things which can be made in a short time. Aprons are always acceptable to the woman in a home, and it is not always the best plan to keep to the fancy "sewing aprons." The bungalow style in gingham or dainty light print is more unusual as a gift and a great deal more useful. Collars may be made in either dainty musline or crepe de Chine and lace, or in plain stitched or braid-trimmed white broadcloth or flannel. Towels, dresser scarfs, or table linen with hemstitching or monogram to give the personal touch will be more than ever welcome this year.

For the woman who has a baby there is an endless number of charming little garments that can be made without much work, in fact the greatest beauty of a baby's clothes is their simplicity. A short white flannel jacket embroidered in pale blue, pink or white, or a long kimono finished in the same way, makes an addition to the wardrobe which may have been overlooked.

Collars which do not require expert fancy work These will be exceptionally popular this year.



The International Livestock Show

In this supreme test private interest must be subordinated to that of public need.

Visit the International this year; ascertain what others are doing and emulate their example.

After the war the world's herds and flocks will be depleted, insuring the American producer high prices for many years to come. Now is the time to prepare.

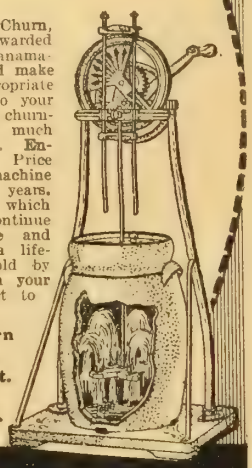
Heretofore the mission of the International Livestock Exposition has been to promote the welfare of the industry and conduct a comprehensive system of training along economic lines.

The institution is meeting the emergency by planning prompt response to new consumptive conditions. More beef, pork and mutton without delay is the plea of the Food Administration.

Patriotism and profit constitute a good combination. This is a moment when the call of the nation, among other things, is for more meat. The International Livestock Exposition is endeavoring to stimulate the producers of the country to an emphatic answer.

A critical stage has been reached by the livestock industry and it is up to everybody to do his "bit." A Richmond is in the field in the person of Uncle Sam, now the world's greatest meat purchaser. The nation's meat requirements have never been as great and as the war progresses this demand will be augmented.

Winner of Highest Award
Gold Medal
Reliable Churn



The Reliable Churn, which was awarded Gold Medal at Panama-Pacific Ex., would make the most appropriate XMAS present to your friend who has churning to do. So much easier to operate. Entirely sanitary. Price easy. Every machine guaranteed for 5 years. A Xmas present which will please and continue to give pleasure and satisfaction for a lifetime. If not sold by hardware store in your town, write direct to

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The Reliable Churn

Clean Barns

The time and trouble it takes to mix whitewash keeps many barns dirty, dark and gloomy. You can make yours snow-white and, without extra cost or labor, kill all lice and mites nd prevent the germs of diseases that affect livestock, from getting a start in your herd.

CARBOLA
The Disinfecting White Paint

is a mineral paint combined with a germicide 20 times stronger than carbolic acid—a paint and disinfectant in one. Comes in powder form ready to use when mixed with water. Apply with brush or sprayer. Will not flake, blister or peel off nor spoil by standing. No disagreeable odor.

Use It Instead of Whitewash

in stable, dairy, poultry house, piggery and cellar. Get some today from your dealer and have it handy for a rainy day job.

10 lbs. (10 gallons), $1.25 at Toronto
20 lbs. (20 gallons), 2.50 at Toronto

FRED SMITH
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32-34 Front St. W., Toronto, Can.

Every Farm Should have an "Ayrshire"

She is a heavy milk producer, rich in butter fat—very prolific.

$ brings you Money

WRITE W. F. STEPHEN, Secretary
CANADIAN AYRSHIRE BREEDERS' ASSOCIATION

The Business of Dairying

A National Livestock Show

An Ambitious Project by the Hamilton Board of Trade That is Favored by Livestock Men

HAMILTON city has a progressive Board of Trade. One evidence of their wide-awake interest is the real co-operation between city and urban industries. There is an agricultural section in the board with 60 farmers as members.

The question of farm production being at the basis of all prosperity is seen by many of these business men and a co-ordination of interests is being arrived at. A recent conference of livestock men of the province was called at the fine Connaught Hotel in that city for the purposes of getting their opinions on the establishment of a big national livestock show there.

The discussion was so satisfactory that a resolution forming the project was passed, and a committee formed to get the farmers and livestock men interested through their associations.

A diagram of the proposed building, 320 feet long with suitable side buildings, was on display. The proposed site consists of 12 or 18 acres at the north of the city near the railways where perfect switching arrangements could be made. Many agricultural representatives spoke on the proposal. The following excerpts from their addresses give some idea of the trend of the discussion.

J. A. Ruddick, Dairy Commissioner, of Ottawa:

"The present danger is that the cities and country may pull apart and so intensify the high cost of living.

"The modern factory system of cheese and butter making is a recent thing. In 1864 the first cheese factory was built in Oxford County, Ontario.

"Canada made and exported $40,000,000 of cheese last year, as well as $35,000,000 of creamery butter. In all our total dairy products this year will amount to $200,000,000."

Adam Brown, of Hamilton, made the first shipment of Canadian cheese to Great Britain in 1865.

"Price of cheese regulates the prices of all other dairy products. Price of milk has not risen like other products. Butter should be 47 cents a pound when cheese is 21¾ cents.

"Denmark, Holland and Switzerland are not able to furnish much butter now. It will take years to build up these herds. Danish butter sells in England at $1 per lb.

"There is great need of the stimulation of production of dairy products in Canada. An exhibition is one of the powerful factors in this work."

Prof. H. H. Dean, of the O.A.C., made some points for the dairyman.

"No one thing reacts upon the people like an exhibition.

"Anyone who pays 30 cents for beef can well afford to pay 20 cents a quart for milk.

"Milk-sugar is found only in milk products and it is a special food for the brain.

"We should take plenty of cream, milk and butter to keep the brain well nourished, and cheese for the muscles."

John Gardhouse, the well-known Shire-breeder of Weston, said:

"I showed horses in Hamilton city as a lad 40 years ago.

"As a director of Guelph I have nothing to say against the Guelph show. It has made so good that the cry for more accommodation is listened to now."

J. E. Brethour, of Burford, believed that every livestock interest should be represented at the proposed show. He heartily believed in it and did not think it would hurt the Guelph show.

C. F. Bailey, assistant Deputy Minister of Agriculture, dwelt on the need of increased production and the need for all encouragement.

"War," said he, "is waking people up to the importance of agriculture as never before." He was not in a position to report for or against the proposed show, but was satisfied that Canada needed more big exhibits, especially along dairy lines.

J. S. Martin, of Port Dover, was enthusiastic in his advocacy of the show. Telling about the Guelph show in poultry, he said that the big entry lists made crowding of the exhibits essential. At the big U. S. shows they did not allow more than one bird in a coop. Hamilton would be an ideal centre for a real international poultry show.

D. C. Bull, of Brampton, also felt that the proposed show was needed and that it would not interfere with Guelph.

J. D. Brien, of Ridgetown, proposed that the Board of Trade get down to business with a small committee and get to work at once.

John McKee, of Norwich; H. Robinson, of Toronto; James Douglas, of Caledonia; D. C. Flatt, of Millgrove, and others favored the move.

The Board of Trade officials contended that if the Guelph show were to be moved for better accommodation that Hamilton had the most attractions to offer and would loyally support it as an educational show. They did not believe in commercializing it at all. It was felt that a bigger show was needed as there was no room to expand at Guelph, except into the air, and the hotel accommodation was inadequate. A big show to take in all livestock that would be international in its scope as well would be a success from the start. Consequently a committee consisting of leading livestock men was formed to coöperate with the agricultural section of the Board of Trade to discuss the project further.

Care of the Dry Cow

During the period a cow is dry it is usually the case that she does not receive as good care and attention as when she is milking regularly, but this is a great mistake. The dairy cow must have a rest from milk secretion and during this time she should have the best of feed and care because her system has become run down by the past several months' work in the production of milk and the demands made upon her by the calf she is carrying. The better we care for her when dry the better she will do when she again begins giving milk.

It is the nature of the cow to go dry and she will usually do it of her own accord. But why is it her nature? Just as it is the nature of a Jersey to conform with the Jersey type and a Holstein to be black and white. It is a characteristic which has been bred into her ever since the beginning of the development of the dairy cow. This does not mean that the men who founded and improved the breeds selected cows which would go dry for a certain period, but they did select cows that would give a large volume of milk per year and do it for several years. The heavy milk-producing cow that is milked right up to calving year after year and not allowed a rest usually gets worn out in a few years owing to the great and continuous strain on her constitution. I have on my farm at the present time some deep milkers that would give milk from one calving time to the next if I should continue milking them, but I always allow them a period of rest. I consider six weeks long enough for any cow to be dry. The cow that remains dry for twelve to sixteen weeks is usually a poor one.

The ration for the dry cow should be formulated with three things in mind, viz., to furnish a sufficient amount of protein to develop the fetus properly and allow a surplus for the needs of the body of the cow, to supply enough carbohydrates that the cow may lay on a little fat, and to supply succulence. Some kind of green food is very essential in the ration for the cow at all times. It serves the purpose of maintaining the bowls in a loose condition which is necessary to good digestion and assimilation of the food. Corn silage is undoubtedly the best feed to supply succulence, although in the absence of this it can be supplied by roots or dried beet pulp. Alfalfa hay, clover hay, oats and pea hay, cottonseed meal, oilmeal, and oats are most common among the protein feeds.—W.H.U.

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7 days butter 24.67 lbs.

Owned by Arbogast Bros., Sebringville, Ont., Importers and Breeders of High Class Registered Holsteins. Have used the Hinman on Official Test Work, with grand results.

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Labor costs going up—help almost impossible to hire—feed going "sky high"—profits going down. The Dairyman must save on something. YOU can't save on feed, so you must SAVE ON HAND LABOR.

Install the SIMPLE, SAFE and SANITARY

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BEATS ELECTRIC or GASOLINE

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common coal oil, no odor, smoke or noise, simple, no pumping up, no pressure, won't explode. Tests by Government and thirty-five leading universities show the Aladdin gives **three times as much light** as best round wick flame lamps. **Won Gold Medal** at Panama Exposition. Over three million people already enjoying this powerful, white, steady light, nearest to sunlight. Guaranteed. And think of it—you can get it **without paying out a cent.** All charges prepaid. Ask for our 10-day Free Trial Offer and learn how to get **one Free.**

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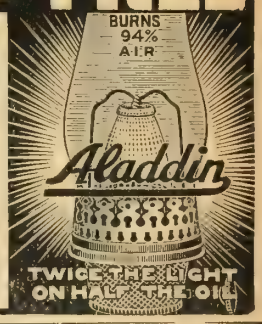

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by producing more milk and beef from the same feed.

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helps food production by fitting the "slacker" hens for active service. Costs but 1c per month for each hen. Guaranteed to increase the egg production or you get your money back.
Write for 64-page book, "Poultry Wrinkles." It's FREE.
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CAM

"CAM'S 'COLLEGE QUEEN'"

Whose Official Record in the Harper Adams College, 1916-17, Competition, just concluded, was 301. This is actual proof that I am England's Supreme Breeder of White Wyandottes, White Leghorns, and Buff Orpingtons, and founder of the only 300-egg strains in the British Isles.

Pen 64 White Wyandottes have gained 1st position in the whole contest, winning Gold Medal and First Class Certificate with an average of 249 eggs per bird, "Cam's 'College Queen'" breaking all records by laying 301 eggs in the twelve months.

England's Only Breeder Who Has Won 7 Gold Medals in Open Contest

My strains are winning in every contest, the 1st Prize Winners in the Irish Contest are bred from a cockerel supplied by me as eggs.

Share my successes, purchase your stock from the best laying strains in the world

I have a few 1916 hatched White Wyandotte Pullets, full sisters to my pen 64, which I can highly recommend for breeding pens.

Also a few 1917 April hatched Cockerels from my 300, 301, and 311 egg strains.

Write immediately for list of stock for sale to

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Our 264-Egg Kind.

Increase your egg yield by purchasing

A CHOICE COCK OR COCKEREL

of our high record Rocks, Wyandottes, Leghorns or Reds. 1917 Mating List containing 65 photos of stock, buildings. Feed and tonic formulas.

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are promptly relieved with inexpensive home treatment. It absolutely removes the pain, swelling, tiredness and disease. Full particulars on receipt of stamp.

W. F. YOUNG, P.D.F.
482 Lymans Building - Montreal, Canada

In The Poultry Yard

Raise a Chick

Forty men are in the field extension work for the U.S. Department of Agriculture, all working in the interests of poultry.

Returns for a Farm Flock

I have a flock of 25 mixed Plymouth Rock and white Leghorn hens which so far this year have laid for me 145 eggs per hen. They have had a farm run, and no particular care. I purchased $22 worth of grain for them besides the feed they picked up. While this is not a heavy record, it shows the value of every farm having a small flock of hens.—N.J.C.

Feed Sprouted Oats

Giving the hens once a day all the sprouted oats they want to eat, which is about a square inch of sprouts, grain and roots, enables one to reduce the grain ration about one-third and thereby effecting a saving in high priced grain. Oat sprouts can be produced at about 20 to 25 cents per bushel, while the price of wheat is about $2.20 per bushel. It is also remarkable how sprouted oats influence the laying of the hens. A change in this respect can be noticed within a few days after sprouted oats have been fed.

Likes Leghorns

The returns above cost are far in advance of other fowls. The Leghorn hen has proven this by eggs sold, broilers raised, show specimens disposed of and layers retained; she is a money maker in every phase of the poultry business, and hen for hen, dollar for dollar invested, there is no breed or variety which will produce maximum dividends at as low a cost as the single-comb white Leghorn. This is being proven year after year, not only by farmers, but by poultry farms who keep her in the thousands, and to the farmer who is looking for profit-paying fowls, the larger and better Leghorn hen will suit him admirably.—A. W. Cook.

For Crate Feeding

The birds intended for the market should be kept clean and before being placed in the fattening coop or the fattening pen they ought to be dusted and freed from all tormenting agents whatsoever. If a fresh lot is placed in the fattening quarters every week there will be no difficulty in keeping one's customers supplied regularly all winter. The big advantage of placing the fatteners by themselves consists in the fact that they may be given soft feed made up of the fat-producing grains ground fine. Ground barley and corn with a small addition of buckwheat will prove satisfactory. Double precautions in the way of frequent dusting with a good insecticide are required in the case of the fatteners. Being confined in their movements the mites attack the fowl with added ferocity and make paying returns an impossibility.—J.A.

Balanced Rations

Hens fed an unbalanced ration produce only one-third to one-half as many eggs as hens fed a balanced ration during the same time. An unbalanced ration wastes from one-half to two-thirds of the feed. Be sure the ration is balanced.

Hens cannot make eggs unless they have lime to make the shells. Feed and water usually contain only enough lime to shell one egg for each ten eggs the feed would produce. The number of eggs produced from high-priced feed should not be limited because of a lack of lime. Keep crushed lime rock or oyster shell before the hens at all times. Supply hard, sharp grit also.—A.P.M.

Exhibition Fowls

Exhibition fowls, although thought by some to be less vigorous than others, must, as a matter of fact, be strong in constitutional vigor or they cannot develop the required robust bodies or grow the beautiful lustrous plumage required to win in the show room. Standard requirements for all the more useful breeds of poultry include a strong, well developed, plump, muscular body and such a body is impossible on a weak fowl.

The Cost of Poultry

It is a well-established fact that most growing animals make the cheapest gains in weight while young, says L. E. Card, in the *Rural New-Yorker*. According to Dietrich, in his book on "Swine Husbandry," it takes, on the average, four months for a pig to grow his first hundred pounds. He will consume during this time about 240 pounds of feed. To grow the second hundred pounds takes only two months and 300 pounds of feed. The third hundred pounds takes three months and 630 pounds of feed, while the fourth hundred requires nine months and about a ton of feed.

Our data seem to indicate that a very similar condition exists with chickens. The following average figures for Rhode Island Red chickens give the number of weeks required to make each pound of

flesh from the first to the fifth pound together with the number of pounds feed required for each pound weight respectively:

Pound of growth	No. of weeks	Lbs. feed per lb. gain
1st	6½	3.0
2nd	3½	3.2
3rd	5½	6.5
4th	5½	10.0
5th	10	18.0

It is very evident that the fifth pound is a costly addition, as compared to the second or third pound. Let us consider for the moment a flock of Red pullets averaging 2½ pounds each. To put them up to five pounds each with feed at 3½ cents a pound will cost at least 75 cents per pullet for the feed alone.

The following are the same data for Leghorns. Very few Leghorns reach four pounds in weight, and for this reason the figures are only given to 3½ pounds:

Pound of growth	No. of weeks	Lbs. feed per lb. gain
1st	7½	3.2
2nd	5½	4.5
3rd	6	7.0
Next ½ lb.	4	5.0

The next table shows the average amount of feed consumed per week by each 10 birds, at several different periods in their development. Notice that the Reds keep in advance of the Leghorns from the very first:

Week	Food consumed per 10 chicks per week (Reds)	Food consumed per 10 chicks per week (Leghorns)
1	1¼ pounds	1 pound
8	10 pounds	8 pounds
16	15 pounds	12 pounds
24	18 pounds	15 pounds
32	18 pounds	16 pounds

To grow a Rhode Island Red up to twenty-four weeks takes about twenty-four pounds of feed. To grow a Leghorn to the same age takes about 20 pounds. After that age the consumption is from 1½ to 2 pounds per bird per week. When we add to the feed cost the cost of the hatching eggs, incubation, coal for brooding, use of equipment, labor, and mortality, it is readily seen that the growing of pullets is an expensive proposition. The cost of feed increases rapidly as the birds grow older.

With present costs of feed and prices paid for poultry meat, the growing of birds for roasters is a losing proposition. All cockerels which cannot be used or sold for breeding purposes should, therefore, be sold as broilers. There is apparently no period in the age of the birds when the returns from cockerels sold for meat will have paid in full the feed cost of the pullets.

Our Breeds of Poultry.

Poultry is divided into several great classes such as fowls, turkeys, geese, ducks and so forth each of which is composed of quite a number of classes, these in the case of the fowls being further divided into varieties, which, in turn, are divided again into colors.

When one considers the fact that all fowls have sprung from the jungle fowl of India, a sort of mongrel game in type, it seems marvelous to see the immense difference in size, type and color to be found in the various breeds and varieties. It would probably be impossible to make some believe that the large Brahma and small game bantam originated from the same source, but it is nevertheless true.

With all this great difference many are perplexed to know what breed they should keep when they decide to keep hens. So

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many of the breeds are good that it is not always easy to advise the exact one which will best suit someone else. As a rule the man's own inclinations or fancy, as you wish to call it, will finally decide the matter. It is best to have a breed that is fancied, for no doubt it is unlikely the best results can be expected where dislike in any way exists for the breed, but for the sake of those who wish to consider breed values this series of articles will be as near as possible to try to show the good features of the breeds with also some of the objections or faults as well, in the hope that it will serve to prevent possible mistakes in selection by the uninformed or intended keeper of chickens.

As a general thing the breeds belonging to the same classes run much along the same lines, the Asiatics being heavy and large; the English, short but meaty; the Mediterranean, the long egg type, the American general purpose and the games, solid and tall. If one will bear in mind the characteristics each class has been generally bred for, it will not be hard to know which one to look to in seeking for eggs or meat or both, as the case may be. That breeding in any breed can modify or improve qualities in any direction is very true, and it will be found possible to obtain results astonishing to those who think the breed incapable of producing them.

Where breed characteristics have been so long and persistently bred as in the Leghorn, it is not as easy to make perceptible change in a short time, but in many of the general purpose breeds eggs or meat can be bred for specially with the natural tendency to divert the type into one direction or the other.

Except by a gradual process, for instance, it is impossible to both deepen the breast and lengthen the breast and back. This is quite an exact undertaking where the natural result is that if you increase the one you lessen the other, but these things can and are being done to the wonderful improvement of values and it is just that sort of worth-while effort that makes the work so interesting to the man who likes accomplishing something really of value for the future.—A. P. Marshall.

Order Eggs Early

Baby chick hatchers are looking forward to a big demand, some of them are going to experience difficulty in getting all the hatching eggs they want, and it behooves the intending purchaser to decide now what he will need and get his order in early for spring deliveries.

Winter Dollars From Hens

By W. A. STAEBLER

To make a gentleman, they say in England, one must begin with the desired one's grandfather. Therefore if you wish to be sure of picking coins out of the nests in December, much the same system is necessary, that is, you will have to make winter layers of your flock's progenitors. To begin at the very beginning, if only for the sake of looks, a farm flock should be of one size and color. I convinced one neighbor of that, and the results were far-reaching. My birds were laying through the winter while he was only vaguely aware that his chickens were somewhere about the barn all that time. It was enough for him that a fair proportion managed to survive the winter. I was proud enough of my birds to tease him about his flock of scrubs until in sheer self-defence he bought a trio of pure bred stock. His old birds had come from a long line of this survival-of-the-fittest business. They managed to pick up enough stray grains and bugs in the fields during the summer to keep the vital spark burning through the long cold months, but the vital spark burnt all too feebly to evolve such a preposterous thing as an egg in January.

If my neighbor had not seen eggs in my hen house the winter previous I do not think he would have bothered much with my advice. I find that generally so. Most folks hate to take advice unless they see a litter of little dollars curled up in it, and in most free advice that is a rare sight. But no matter what you see in this article, I can guarantee it free from the theory. And my neighbor, thinking to himself that what one man could do another can, started in. On the south side of his barn he built a shed roofed house forty feet long and fifteen deep. This is ample for a hundred and fifty layers. The wall of the barn supplied the back wall, the front, about seven feet high was alternate glass and cotton in frames, as was the west end. From the east wall a door led directly into a wing of the stable. This arrangement made it easy for him to attend the birds and gave them a maximum of light. When the sun shone, it was as warm in that house as any day in July. At night he lowered drop curtains of old bagging in front of the roosts which allowed the birds plenty of air yet sufficiently confined their body heat to keep them comfortable on the coldest nights. The cotton fronts were swung up day and night, and only lowered when snow or rain drove straight in.

THE FLOOR AND FEED

His trio of "bred to lay" birds had one pen to themselves. Some sixty scrubs had the rest of the house. The floor was dirt, raised ten inches from the ground level, and covered with about six inches of straw. There was a wooden 'V" trough for mash in each pen, and a hopper containing grit and shell. The hens dusted themselves on the dirt floor, which was kept loose. From a string lowered to within easy jumping distance were hung mangels and turnips, which provided the birds with much needed succulent feed and exercise. The water pans were raised on blocks to escape contamination, and he was careful to see that they always contained water. In the morning he fed a mash containing bran, shorts and cornmeal in the proportions of four, two and one with an added handful of meat scrap for every four birds. About three in the afternoon he scattered in the straw a mixture of corn, oats and wheat in about equal parts, a rough handful for each bird. By roosting time this was all picked up. After dark he again mixed in the litter about half this ration of grain so that when the birds came down in the morning they got right to work scratching and thus put themselves in fine fettle for

the day. The birds were dry under foot. I believe that to be the most essential feature in the production of winter eggs.

Chickens are not web-footed, as you may have noticed, and a damp hen house generally presents the lugubrious spectacle of the inmates crouched about in the corners, one foot drawn up (to gain that much) and both eyes closed in utter misery. The nests were roomy, about fifteen inches square, fastened removably under the dropping boards with the entrance to the rear. They were well supplied with clean straw, thus ensuring unbroken and spotless eggs.

All this was not finished until winter had set in, but soon after the birds were installed his trio started in to lay as though it was the most natural thing in the world. The mongrels were obviously delighted with their surroundings, but had no idea of how to show their gratitude. About the beginning of February the weather became unaccountably warm. The nights were pleasant and the days glorious. The "anybreeds" were convinced that spring had come and laid a few eggs to celebrate. They might have kept it up if about this time an untrustworthy farm hand had not neglected to feed and water the flock for a day or so. The cold days came again and the little spurt of laying dwindled to nothing. Not so, however, with the "bred to lay" birds. They stopped for a day or so to show their disgust at the neglect, but picked right up again when the feeding became regular. By this time my neighbor's faith in the good old fashioned merits of the "dunghill" type had died a natural death and he swore out a warrant for the arrest and execution of every last one of the mongrels. Since then his farm has a more attractive appearance and his purse is considerably fatter, for the flock of snow white pure breds that help him keep the bugs out of his fields work none the less diligently for the fact that their regular rations are not stinted.

To start with a trio, as this man did, is one good way. He paid ten dollars for them and now considers it was the most fortunate ten dollars he ever invested. As many pullets as you think the proposition merits, or you have room for, may be bought reasonably in the fall. The best layers singled out to form a breeding pen for the spring, to which is to be mated a cockerel, unrelated, but, if possible, from the same strain or family. If you are unused to buying from advertisements, and a little afraid of getting a "pig in a poke," remember to avoid those who make extravagant claims. When you see stock offered at a dollar and a half a head, and the man claims 250-egg flock averages, pass on. But the man who claims nothing spectacular, uses trap nests, can show testimonials from satisfied customers, give that man a chance to quote you.

THE NEW FLOCK

Now that you have installed your new flock, give them a chance to show what they can do. It is quite likely that a flock of pullets which have been bred from generations of birds accustomed to proper surroundings would give a worse performance than the mongrel if kept under average farm conditions. This is only to be expected, yet I believe that in this fact lies the source of most of the distrust with which pure bred poultry is held in farming districts. The first step to ensure the comfort of the birds is to make sure, by disinfecting, that mites have fled the place.

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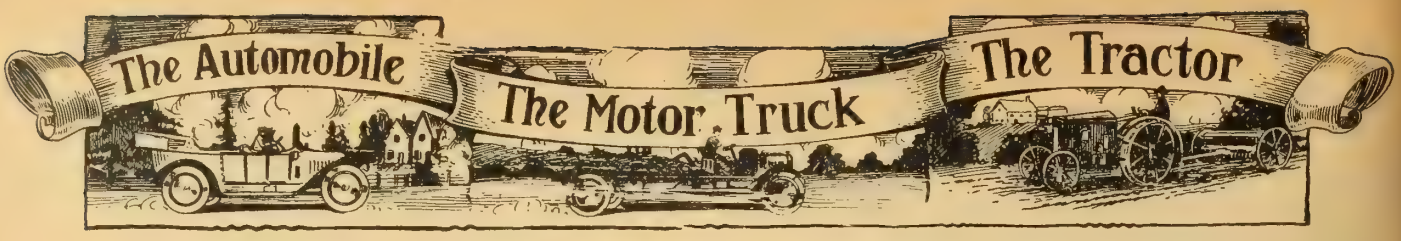

Trucks Reduce Expense

That the automobile truck will solve a lot of the farmers' troubles of transportation and materially aid in the food supply, has been demonstrated time and again in Canada this year. Where there are good roads the truck can reach the market so easily and so often that nothing goes to waste. Auto trucks are now becoming so well made and efficient that the experimental timidity is past, and it is a question of getting down to business. One farmer, after using one, claims that although it is a light machine, it will easily haul two tons at a load. Furthermore, it makes three or four times the speed of a team of horses, and one man with this truck can accomplish even more than three men with teams of horses.

This farmer backs the truck into the manure pit and dumps the manure directly from the dump cart into the truck. This load is taken to the farthest field in but a few minutes, and there is unloaded into a pile or pitched directly on to manure spreaders.

Another farmer, living near Pickering, has used a small delivery truck for sending his milk products, garden products, orchard and field crops to the Toronto market and has put his farm into the profit column thereby.—C.D.A.

Motor Trucks Help Save Potato Crop

When the Irish potato harvest season was at its height in the Eastern Shore counties of Virginia help was scarce; in fact, it did not seem to exist, says a writer in the *Rural New-Yorker*. The hard-pushed farmers could not even spare time to visit the barrel factories to get their supply of empty barels. So at least one enterprising manufacturer decided upon a plan to save the farmers much valuable time by delivering barrels in the field by auto truck. A large rack was placed on the body of the truck, which easily carried one hundred empty potato barrels of the 105-quart U.S. Government standard size. This is about enough barrels for one acre of extra good potatoes. But the truck made good time on the roads, rushing from farm to farm through the great potato district within a radius of five or six miles. By this means the farmer had

Baling hay in Ontario with a gasoline engine.

Sawing wood with a Ford car and a belt on the rear wheel.

the barrels delivered in the field where they were to be used cheaper than he could haul them himself, and also allowing him to give his whole attention to harvesting.

Motor trucks were used quite extensively by a number of large growers on the peninsula for hauling barrels of potatoes from the farm to the railroad. So great was the saving of time and horsepower that the innovation will take a big jump next season. One big grower near Tasley kept four big trucks on the road for many weeks this summer, hauling his splendid potato crop three miles from farm to railroad siding.

A feature of the potato harvest on the peninsula is the absence of the frenzied rush to get the crop on the market early, especially just before your neighbor. Under the guidance of the organization of the Eastern Shore of Virginia Produce Exchange the harvest season is extended over several weeks, and the farmers dig the crop only so fast as the transportation facilities can handle it, and as the markets demand a normal supply. This avoids ruinous market gluts and throat-cutting competition among the growers.

Achievements of Motor Trucks

The achievements of motor trucks are worth watching by those farmers who have not already learned of them from actual experience, says an editorial in the *Breeders' Gazette*. Many trucks can be seen this year hauling farm crops, produce, fruit and livestock to market. Even on dirt roads some of the trucks are making trips to market with considerable regularity. At threshing time the man who had a truck or could hire one succeeded in delivering his grain to bin or town elevator without delay, even though he could not have secured the two or three extra men and teams to have done the same work. Vegetable farmers near big cities and growers of melons, potatoes and early vegetables in the south find that the truck enables them to operate cheap land at a distance from market or shipping point and still make deliveries at a comparatively light cost. With fruit growers and dairymen this advantage is even more appreciated because their crops are still more perishable.

Cattle and hogs are now hauled in great number in trucks from territory within 30 miles of some of the livestock markets. It has been found that the delays and jostling and jerking of cars in railway shipment cause a much greater shrink than motor truck transportation for these short distances, and the high prices of livestock make this an important factor in counting the economy of the new method.

Much of this is work which horses would not be expected to do because of the distance covered or the speed developed, or both. One of the principal effects of economic importance is the expansion of farm territory readily tapped by a market centre or shipping point. Such a use of the truck seems likely to interfere very little with the established duties of farm horses. Instead, to a large extent, it will take care of new business. With the continued building of hard roads the territory covered by trucks is increasing and their work is becoming more dependable. For the longer distances which a truck is required to cover the cost of operation is of less importance than the capacity to do the work.

Tractors in Ireland

The Irish Agricultural Organization Society has conducted a series of exhaustive enquiries into the material and the working of a number of the tractors at present employed in Ireland upon farm work. The tests have been made by a mechanical engineer, assisted by agricultural instructors of the I.A.O.S. staff, who have made very valuable and complete reports upon the machines. The conclusions arrived at have been correlated, and any society which contemplates the purchase of a machine would do well to consult the I.A.O.S. before making a choice. Any member of a co-operative society intending such an investment should ask his society to obtain this information, which the I.A.O.S. has been at considerable expense to place at the disposal of co-operators in Ireland.

A Good Barometer of Trade

Iowa, with a population of about 2,220,321, registered last year 172,791 motor cars and trucks, says the *Illustrated World*. California with 2,938,654, registered 212,918. Nebraska, whose population is 1,271,375, registered 101,201.

Continued on page 66.

How one Ontario woman gets her washing done.

HOW frequently we come upon them unawares, with scarcely time to shut off the "gas" and jam on the brakes. They're bad enough on dry days but the danger is redoubled on muddy roads or wet pavements.

FATAL ACCIDENTS

THE turn illustrated above was the scene of several fatal accidents last year. We can all recall a number of similar disasters. Most of us have narrowly missed nasty smash-ups ourselves. Yet, despite these repeated warnings, how often we take chances.

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Continued from page 64.

Kansas and South Dakota rank next, with sixteen persons per car. All of these are strictly agricultural communities with California excepted. The population of this latter state is made up of ranchers, miners, and a large influx of the leisured class. However, the fact is still obvious that it is agricultural prosperity that has proved to be one of the vital factors in accounting for the great increase in the number of automobiles in the United States. This is another conclusive proof that if the farmers are prosperous, so is the nation. The automobile registry might be said to be the barometer of trade in country districts throughout every state.

Troubles of the Car Driver

The following questions and answers as given by an exchange recently will be of benefit to many farmers who drive their cars.

If you were driving your automobile down a steep hill and your brakes should fail?

The answer is to use the next best thing —the motor and its compression. Some authorities claim it should be used all the time in hill descending. Shift to first speed, close the throttle, and leave the clutch engaged. A perfectly good brake is instantly made, because as the car coasts, the rear wheels are forced to turn the motor over against compression in the cylinders.

If your starter failed to work, and you had lost your starting crank?

The answer is about as follows: Jack up the rear wheels; let the clutch in, and put in high speed. Then turn the back wheel quickly, either by hand, or by stepping on the wheel spokes. When the engine starts, put the gears in neutral.

If, when ascending a hill your brakes refused to hold, and your gears refused to mesh?

Until you find the cause of the trouble procedure is to back the car crossways on the road.

If your car began skidding?

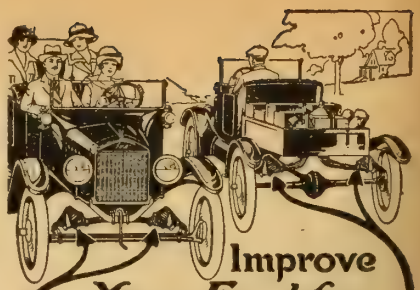
The first thing to remember in this case is *not* to apply the brakes, as they are unsymmetrical in their effects, and only increase the skid. The clutch should immediately be released, and then, if absolutely necessary, the brakes applied. But if it is not necessary to stop, the next vital mater after de-clutching is the rapid and intelligent use of the wheel to try to get to the centre or crown of the road.

If you lost your way on a country road and had no means of asking directions?

Get the general direction by using the watch as a compass. Point the hour hand of your watch to the sun at any time of the day, and then lay the watch flat in your hand. A point midway between the hour hand and twelve on the dial will be due south.

Binders Sell High

At auction sales in Ontario old implements are selling at high prices. The farmers evidently fear an implement shortage or a big boost in prices in 1918. At recent sales in Ontario county, binders that cut two crops sold for $185 and $180 respectively. The old iron junk men do not get many snaps at farm sales now. Often implements sell at an advance of 25 per cent. over their cost price a few months ago.—F.C.M.



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The Farm House As a Home

In planning the farm, the location and the construction of the home is a serious proposition, as its influence on the subsequent progress of the farm is greater than it may get credit for. A farm house that is inefficient as a home is likely to become in time a hotbed of discontent, for at the end of the labors and incidental discouragements of the day one needs a cheerful haven of refuge as a mental and physical rallying point. Good barns, well lighted and ventilated, are necessary, but it is on the farmer and his family working from daylight to dark that the success of the farm depends. The ideal home, whether it be situated in the town or country, is the one that helps us to forget our day's work, and as the average person is susceptible to the influence of environment, the home should be as free from "shop" as possible. In the farm house, which is a sort of composite granary and blacksmith shop, littered with tools and bits of old harness, the possibilities of complete forgetfulness of one's work are not easy. While there is a cheerful home on the farm the loyal support of the sons and daughters is likely to continue for a longer period than where bare surroundings and lack of convenience exist. The well-balanced farm is the one where labor-saving devices are practised both in the house and on the farm and surely the work in the farm house offers a broad field for invention in the way of facilitating labor.

One of the best antidotes to mental and physical jadedness is the diversion offered by the perusal of an interesting book. A useful bookcase can be made of board half an inch thick by six inches broad, two pieces for ends and four shelves, and a coat of oak stain will give it a complete finish. In this bookcase can be kept the various bulletins to be obtained free from the Government and also any books on the various lines of farming which may appeal. A few good works written by some of the popular writers of fiction will help to refresh the farm workers at the end of the evening chores. The great advantage of a bookcase is that it becomes a common centre for reference and should put a stop to the promiscuous scattering of literature of all kinds that becomes customary where books are practically homeless, and without any headquarters.

Trees are great home-makers and take the rawness off our surroundings. The time taken to plant them is repaid ten fold, as each succeeding year they grow in beauty and value, afford shade and shelter from the wind, and give to the farm an air of progressiveness that the treeless farm with better buildings fails to do.

House plants are another source of pleasure and have a fine decorative effect. Especially in the winter are they a welcome addition to the farm house and take off the bleakness of the winter season to some extent.

In the above there have been no suggestions of an expensive nature, but they form an economical plan to foster contentment with the home surroundings and to avert the menace of monotony and discontent with the subsequent desire to seek an expensive diversion.—Allan Campbell.

"Are you a tramp?"

"No, mum, I'm a food conserver. Have you got any old food you don't want wasted?"—Louisville *Courier-Journal*

5% instead of 3%

If you saved $100 every six months for 10 years at 3%, you would receive $347.05 in interest. If you invested the same amount for the same time at 5% you would receive in interest $618.33. The gain at 5% would be $271.28, or 78% in excess of the 3% rate.

Why Lose the Difference

between 3% and 5% or sacrifice 78% of the profits you should derive from your capital. Standard Reliance 5% Mortgage Corporation Debentures are issued in amounts of $100 and upwards. The interest (5%) is payable half-yearly by the local bank in cash on the day it is due. The principal is repayable at a fixed period to suit your convenience. Absolutely safe. No worry or inconvenience.

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Are you a saver or an investor? Write to-day for interesting booklet entitled "PROFITS FROM SAVINGS," which gives some very valuable advice.

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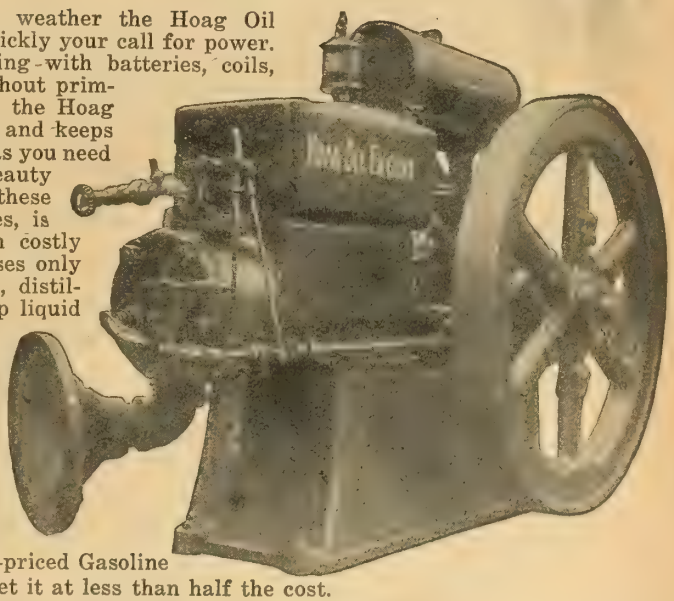

In coldest Winter weather the Hoag Oil Engine answers quickly your call for power. Without any fussing with batteries, coils, magnetos, etc., without priming or pre-heating, the Hoag gets right to work and keeps busily at it as long as you need power. And the beauty of the "Hoag," in these days of high prices, is that it won't burn costly gasoline. No, it uses only kerosene, crude oil, distilate, and such cheap liquid fuels. Every time it starts it saves you time and trouble, and every hour it runs it saves you money. You can get just as much power from a Hoag Oil Engine as you can from the highest-priced Gasoline Engine—and you get it at less than half the cost.

Then there is the saving of time and trouble forever fixing electric ignition. The Hoag Engine has no electrical devices whatever.

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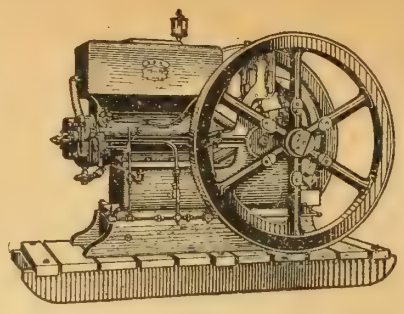

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That's the way to solve the question of high cost of operation—use cheaper fuels. The "Brantford" All-Purpose Farm Engine runs just as smoothly and generates just as much power on naphtha or coal oil as on gasoline. Many farmers have discovered that the fuel saving on a "Brantford" soon pays the initial cost of the engine. And, besides, the "Brantford" is so simple in design and so beautifully made that it is practically "fool-proof." Anyone, no matter how little mechanical knowledge he possesses, can successfully operate a "Brantford" and never put it out of action. If you want a farmer's opinion as to the cheapest and safest engine to operate ask any owner of a "Brantford."

Every "Brantford" Engine is fully guaranteed. Catalogue free if you write for it. Ask us, too, about "Brantford" Portable and Traction Engines.

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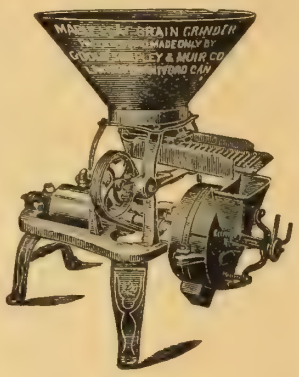
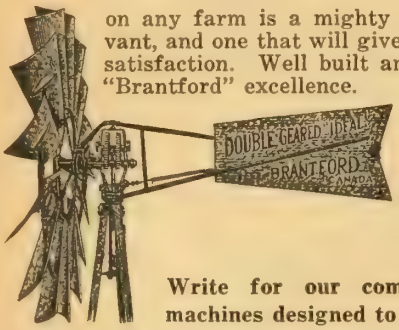
"Ideal" 30-15 H.P.; "Ideal Junior," 24-12 H.P.; also "Beaver," 4 cylinder upright, 24-12 H.P.

Ask us for facts about our reliable Tractors which have made good everywhere during the past ten years. If you are in the market for a Tractor you certainly should investigate these.



The "Brantford" Windmill



on any farm is a mighty handy servant, and one that will give unvarying satisfaction. Well built and of usual "Brantford" excellence.

"Brantford" Feed Grinders

will do your grain grinding cheaply and well, and enable you to get full value from your feed. For your stock's sake get a "Brantford" Grinder.

Write for our complete Catalogue which shows many machines designed to solve the farmer's labor problem.

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BISSELL Double Action Harrows will thoroughly cultivate and pulverize any soil.

One Harrow is Out Throw; the other is In Throw. They are simply constructed, rigid and durable. The Gangs are flexible and the Disk Plates are so designed that they "hang" right into the soil. Bissell Harrows are built in sizes and weights suitable for horse or tractor use. Write Dept. Y for free catalogue. 98

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See advt. also on page 75.

America's Pioneer Dog Remedies

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DOG DISEASES
And How to Feed
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H. Clay Glover Co., Inc.
118 West 31st St., New York

The Modern Gas Tractor

Costs only $2.00. Will give the farmer knowledge that will save him dollars and time.

Farmer's Magazine
143 University Ave., - TORONTO

Christmas Romance

Continued from page 11.

"That I would, indeed," quoth Jean.

"Couldn't you do up a parcel of your grape jelly and a jar of cream while I collect some vegetables to take to her?"

"Indeed, yes, she's naebody to do a turn an' she sae sair wi' rheumatiz."

Jean's visit always meant a meal, so James Stewart decided to have supper at the hotel.

Arthur was out trying the new sled and presently Mrs. Howard heard him coming in. Opening the door he called:

"Mother, here's my Santa Claus man come to take Irene and me for a sleigh-ride and I want to show him . . . " but they had reached the inner door and Arthur's volubility received an unexpected check by Mother giving a faint cry and sitting down very suddenly upon a chair, while James Stewart, with white face, uttered, "Margaret! Can it be you or am I dreaming?"

Needless to say that there were three guests for the sleigh-ride instead of two and that James Stewart did not have supper at the hotel.

After the children had unwillingly retired at their usual hour of seven there was a long, long talk, so long that Jean, waiting at her friend's, declared for the twentieth time—

"He must hae gone awa' hame wi'out me and I'll be havin' to stay the nicht," adding, also for the twentieth time, "Weel! Weel! This hae been the happy day for me, it's fifteen years this varra Christmas since I've heard him laugh like he did this mornin'."

CATALOGUES, BOOKLETS, BULLETINS AND CALENDARS

L. R. Guild, Rockwood, Ont., has issued his poultry prospectus giving full particulars of his Plymouth Rocks and Leghorns. He will be glad to mail this to inquirers.

Ayrshire Records, with scale of points and the minutes of the annual meeting are put out in neat booklet form. Get one free from the Secretary, W. F. Stephen, Huntingdon, Quebec.

The Premium Lists of the Toronto Fat Stock Show can be had by writing to the secretary, C. F. Topping, Union Stock Yards, Toronto. The show is held on Dec. 7 and 8, and all appearances point to a big entry list and fine prices.

Ontario Wind Engine and Pump Co. will be glad to send free their illustrated catalog of farm water and engine supplies. They are doing business as usual although a disastrous fire recently destroyed their garage, storehouse and silo plant.

Secretary Wade, of the Guelph Winter Fair, reports bigger entries then ever before for the Royal Show. The Guelph show will be of more interest to farmers this year than ever before, owing to the fact that live stock is to the front and needed as never before. Every farmer should be there.

Champion Priming Plugs are made by the Champion Spark Plug Co., of Toledo, Ohio, and are described in a small bulletin just issued. They claim to make the troubles of the motorist, in starting his car in cold weather, disappear. Write them for particulars.

Insects Attacking Fruit Trees is the title of a bulletin just sent out by Lawson Cæsar, of Guelph. Every orchardist and fruit grower in Ontario should send for a copy of this bulletin. It may be had free by writing the Ontario Department of Agriculture, Toronto, Canada, for Bulletin 250.

The National Fireproofing Co. of Canada issues a most attractive booklet in colors entitled "Natco on the Farm." This firm also manufacture tiles for drainage as well as hollow tiles for poultry houses, silos, sheds, barns, etc. This bulletin can be had free by writing the above firm at the Dominion Bank Bldg., Toronto, Canada.

The highly productive soil rewards handsomely the efforts of the industrious husbandman.

Next Door Lies the Land of Opportunity

Turn your face, Young Man, towards the North. There lies the Great Opportunity. Northern Ontario, a veritable land of promise — twenty million acres of finest agricultural land, beckons to you. Here, at your very door, is a vast heritage whose wonderful resources are as yet scarcely realized.

The opportunities this land affords demand your serious consideration and comparison with the treeless west. The Great Clay Belt extends westerly from the inter-provincial boundary between Quebec and Ontario for over 400 miles, varying in depth, north and south, from 25 to 100 miles and more. It is safe to say that from 65 to 75 per cent. of this vast expanse is good farm land. The soil is rich and deep and produces in abundance practically all crops grown in Older Ontario.

For settlers this bush country of Northern Ontario has many very decided advantages over the open prairie of the Western Provinces. For instance, there is plenty of firewood and wood for repairing machinery, fence posts, lumber for building, etc.; no blizzards in winter; no windstorms in summer; there is shelter for stock, and good water; and not so great loss with frost and hail. The deadly monotony of the prairie is outdone by the varied forms of foliage, giving relief both to the eye and mind.

The bush country is preferable on account of its scenery, shelter, fuel, lumber, pine, atmosphere, delightful walks, shaded; there is more employment in the winter months; one can manage with bush life without capital better than on the prairie; the bush has in fact, too many advantages to mention in short space.

Mixed farming pays handsomely. This new land is blessed with ready-made markets near at hand.

RETURNED SOLDIERS' SETTLEMENT ON THE LAND

To all soldiers who have served in the British or Canadian forces in the European war, free instruction will be given at the public institutions of the Province in fruit farming and chicken raising. Any such soldiers may acquire a home in Northern Ontario upon the following terms:—

INSTRUCTION.—Free accommodation, board and instruction in agriculture will be provided at the Government experimental farm at Monteith.

FARM COLONY—As soon as the Superintendent at Monteith is satisfied that enough men have acquired sufficient knowledge to succeed as settlers, a farm colony will be established under a competent superintendent, along the line of railway to which these men will be moved.

WORK IN COLONY—Necessary buildings for the central community will be constructed and the land of the colony cleared and prepared for cultivation, a reasonable wage being paid for each day's work.

ONE HUNDRED ACRE FARMS—Farms of 100 acres with 10 acres cleared will be laid out so as to bring the farm houses as near together as possible, and allotted free to any member of the colony who desires to work for himself. A patent being granted to the settler after 5 years upon performance of certain conditions.

ADVANCE OF $500—Settler will be provided with necessary machinery, tools, cattle, pigs, poultry, etc., and assistance in building up to $500, which sum will be repayable in 20 years with 6 per cent. interest, but no payment of interest or principal will be required until after 3 years.

COMMUNITY SYSTEM—An ample supply of horses, stock and implements will be kept at headquarters for the use of settlers on generous terms. A school house and public building for religious and secular gatherings will be provided.

CO-OPERATIVE MARKETING, ETC.—Buying and selling will be done on a co-operative basis.

FURTHER INFORMATION—Write to Albert Grigg, Deputy Minister of Lands and Forests, Parliament Buildings, Toronto.

VOCATIONAL RE-EDUCATION

FREE INSTRUCTION has been provided for the vocational re-education of returned soldiers who have been so disabled as to prevent them from resuming their former occupations.

SUPPORT OF SOLDIERS AND DEPENDANTS has been provided for during the period of training and one month after.

FOR FULL INFORMATION apply to W. W. Nichol, Vocation Officer for Ontario, 116 College Street, Toronto.

For free literature descriptive of New Ontario, Settlers' Rates, etc., write to

H. A. Macdonell, Director of Colonization, Parliament Bldgs., Toronto, Ont.

G. HOWARD FERGUSON, Minister of Lands, Forests and Mines

WE WANT
RAW FURS
AND
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Our price list, issued Nov. 1st, mailed on request. We pay express and postage.
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both Wild and Cultivated, at highest prices. If you want reports on Fur or Ginseng, send for free quotations containing full particulars.
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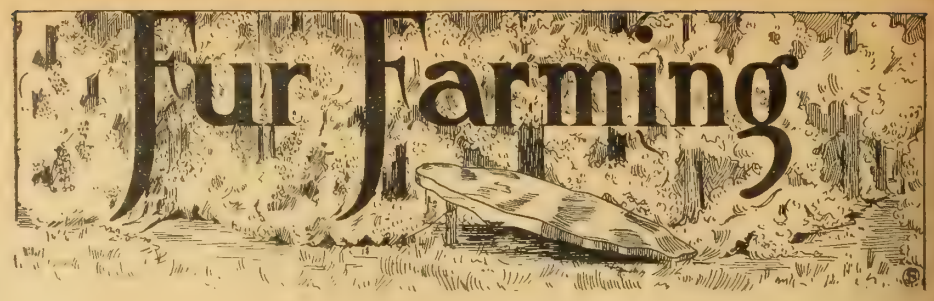
RAW FURS WANTED
I will pay highest prices for your catch, and 5 per cent additional on shipments of $25.00 and over. *Send for price list.*
BEN CORN, 267 7th Ave., New York
RAW FURS

TRAPPERS Along in Nov., when furs get prime, Jim Ellis will issue a price list that any fur shipper can understand. There won't be anything flashy or sensational about it, but the prices quoted and the prices paid will be the same and that's all any fair-minded man expects.
JAMES P. ELLIS, Exporter Raw Furs,
32-34 Mill Street - - - Middletown, N.Y.
Established 1899. Price list free.



Have You Any Trapping Stories?

Readers will help out in this department by sending in any stories of their trapping experiences. There are many good things that our readers would be glad to hear. Send along your story to the editor.

Muskrats as Food

The U.S. Department of Agriculture considered the matter of sufficient importance to issue a bulletin advocating the use of the muskrat as food, and calling the attention of the public to the cleanly habits of this valuable animal and giving methods of preparing its carcase so that it will please the palate of the epicure.

Here is the way to prepare and cook the carcase.

Dress a fresh killed muskrat and carefully remove the scent sack; place in salt water for a couple of hours; parboil with an onion in the water, which will remove the wild taste; roll in flour and fry brown, as you would fry spring chicken; serve, and after the first helping you will call for more. Or you can have muskrat stew, by pouring off the water and onion, after parboiling, then cook as any other stew. Delicious? Yes; just try it.

The Fisher

Geo. O'G., Ontario.—Can you tell me how to trap the fisher and what the animal looks like; are there many in Ontario?

Answer.—Perhaps some of our readers can let us know by an early mail. Direct your letter to the Editor.

Fur Sales Good

At the recent auction sale of raw furs in New York City the prices for all furs showed an advance of 5 to 75 per cent. over last year.

Fox Industry Good

Reports from P.E.I. go to show that the fox industry in the Maritime Provinces has a good season ahead of it. It is felt that a closer coöperation of the ranchmen is necessary in order to handle their furs to better advantage through the Fur Sale Board.

Mink Trapping

The mink is one of the hardest of all small fur-bearing animals to take in traps. In fact after an experience extending over many years, I have come to the conclusion that in many instances the instinct is so well developed, its sense of smell so keen, that even the professional will use all his skill in taking it. Some animals in particular are more wary than others, and a mink that is old generally will prove as hard to capture as the fox.

In the first place, one ought to prepare his sets with the greatest possible care. Take nothing for granted. Water sets are most effective both for amateur and experienced pelt hunters, although after practice one will generally have but little trouble in taking the fur bearers by the latter. Clean traps are essential, especially if they are not placed in water. I prefer to handle mine with gloves the palms of which have been coated with bees-wax. It is a good plan to dip the gloves in blood occasionally or rub them in moist earth.

MOVEMENTS OF THE MINK

If one will go along the streams where there are signs of the mink and scoop out small excavations near the edge of the water, early in the season, he will find later that many of these artificial dens have been enlarged and are occupied by fur bearers. Some of the others will be visited by the animals in search of fish, etc. In this way one can make his own trapping grounds, so to speak.

My method of making the excavations is as follows: Wading into the water I select places a few hundred feet apart and make the artificial dens, probably a foot deep and a few across. I am very careful to remove the dirt, also to eradicate footprints, etc., in the immediate vicinity. After the excavations are completed, I dash water over them to destroy the human scent. Some, in their attempt at a realistic burrow, do too much, such as draping grass around it, etc. Unless this is natural to the place and can be arranged naturally, it is best not to bother with the decorations. Sometimes they defeat the purpose altogether.

For the benefit of the novice, I wish to state that one must study thoroughly the habits of the animals he would trap. With the mink especially is this true. Therefore, one must remember that this fur bearer prefers to make its den along the small meandering streams where there is concealment both for its burrow and while hunting food. Again crawfish, minnows, etc., seem more numerous along the creeks. One ought to remember these things when after the fur bearer mentioned in this article.

Under old bridges signs generally will be found. Often places where the fur bearers enter the water may be discovered. At the foot of these where it is two or three inches deep traps can be arranged.

THE MINKS' RENDEZVOUS

Flowing tiles are excellent places to trap the mink. In cold weather when the streams freeze especially will excellent results be obtained. I prefer to select drains which do not flow too much water, but even those that are full, or nearly so, may be utilized. My experience has been if there are no tracks about, the trap—or traps—should be set so that the jaws are farthest from the tile. If there should be indications that the animals have already entered the drain, reverse the method.

Frequently partly dried drains flowing but a small amount of water may be dis-

covered. By digging them out, catches usually may be made. If drains are screened, permission generally can be had for the removal of the wire or screen if one states that no fur bearer can enter as long as the set is made and that the wire will be replaced as soon as the trap is removed.—George J. Thiessen.

The Milch Goat in B.C.

Continued from page 11.

ing is half solved by this method and the first crop will show the value of goat-manure on raw forest land. A square patch in the midst of my clover field, the second growth just now standing ready to be cut, shows by its darker green and long, heavy stalks the site of my first goat pasture, five years ago.

There is no gainsaying the fact that pioneering on the coast is a man's size job, to say the least of it. One need take advantage of everything the country affords and during the first few years, while the goodman must spend part of his time at wage-earning work and before he has enough land cleared to maintain a cow properly, the milch-goat will stand by him and his children like a true friend.

It is fairly well known that the milk is richer and easier to digest than that of the cow. For this reason, and because of its immunity from the tuberculosis peril, medical men recommend it for invalids and infants. Sometimes a slight flavor, varying with the feed and the individual, and not always objectionable, is noticed. A change of pasture and plenty of rock-salt will usually remedy it. Some "tall talk" has gone the rounds at times as to the milk capacity of goats. After some years' experience, as a lad in old England and, lately, on the coast, I have come to the conclusion that two quarts per day is a good flow. A goat producing less, for the first three months after freshening, is not doing her duty, while, with anything above that quantity, her value as a breeder of future milkers should increase by leaps and bounds.

High-class animals of any breed or cross are all alike in one respect just now, being mighty hard to get at any price, and it will be many years before there is a surplus in B.C. The best we can do at present is to mate the few pedigreed sires which have been imported with the best of our common does. Selection and good treatment will soon raise the average milk capacity of the herds, and, who knows? some day we may evolve a distinct breed of our own, the "British Columbian" goat!

Preparing for a Harvest

As the oats in her hat nodded and trembled they persistently tickled the ear of the man seated next to her. He stood it in silence for some time, then he ostentatiously took a huge pocket-knife out of his pocket and began to sharpen it on the sole of his boot.

"Whatever are you g-going to d-d-do?" cried the girl.

"Oh, don't worry, Miss!" said the man, testing the edge of the blade on his thumb. "But the next time as them oats gets in my ear there's going to be a harvest."—Pittsburgh *Dispatch*.

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By shipping your furs to me, I am a buyer for the largest Manufacturers in New York.
I will notify you by wire before your goods are sold.
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Ship your skins to us at once.
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Very highest market prices. Quick returns
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CATTLE FATTEN QUICKER.
Dehorned cattle herd together quieter and take on flesh quicker. Their meat is tender and firmer and they bring a higher price. The KEYSTONE DEHORNER is used at the Government Agricultural Colleges. Write for booklet.
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MINK Marten, Fox, Muskrat, Coon and Skunks

Market is strong, ship at once and get benefit of high prices. Have you our price list and brown tag? Write for them.

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Get top market prices by shipping your RAW FURS TO

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Get the New Darning Machine!

It's a dandy.

It just costs you Half a Dollar and, just think. It will darn Hosiery, Underwear, etc., much better and far more quickly than that old, bothersome needle.

Mail us 50c to-day and receive this "housewife's friend" by return.

Agents wanted.

The Canadian Supply Co.
Dept. F1. TORONTO, CAN.

All queries must be accompanied by the writer's name and address. If personal answer is required, enclose a 3-cent stamp. Address all correspondence to Grasmere, THE FARMER'S MAGAZINE, *Toronto, Canada.*

House Plans

G.N.A., Saskatchewan.—Can you send me the plans for the house appearing in your issue of October, 1914?

Answer.—The house plan is not made for the house appearing in October number, 1914. We have several plans of practical farm houses which have appeared from time to time. In each case where the article is given we make mention of the fact if the plan is obtainable, but in any case we can obtain plans for people who wish them if they will state what they want and what changes they want made, by having our architect make the drawing required. In this case if you would like to have the plans and specifications made for the colonial farm house we can have our architect draw the same and prepare them for you if you would give us exactly what changes you wish to be made and when you want it ready. The charge for this will be $20. He charges us $10 for the plans and $10 for the specifications.

Blackleg Vaccine

T.P., Ontario.—Can I secure needle and vaccine to vaccinate my own cattle for black quarter? Would I be violating the law in doing my own cattle and what would it cost for vaccine and needle?

Answer. — You can get vaccine and needle by applying to the Veterinary Director-General, Department of Agriculture, Ottawa, Canada. There is no regulation against doing this work yourself.

Feeding Dairy Cow

E.R., Ontario.—Can you give me any information on the value of feeds and amount of feeds for a dairy cow? I want to know when things are going right.

Answer.—Feeding dairy cattle is not a hard task provided the feeder knows the value of feeds, has good judgment, and supplies sufficient feed of the proper quality. In this case you name what feeds you have on hand. If the cow is giving a flow of milk, she will need food to keep up her body and to furnish the milk. There are two classes of feeds—roughage and concentrates. The roughages supply bulk, succulence and variety. The concentrates furnish the protein, carbohydrates and fat.

The nearer we can feed our cow in winter to come to the conditions on grass, the more success we will have. The bowels must be kept open. In your case you have carrots, mangolds and turnips to feed. These will supply the succulence. Cornstalks are constipating and more roots need to be fed when using them. Alfalfa is a loosening feed as well as having a large percentage of protein. The cabbage leaves without the head would be very little use as a cow feed. For a single cow, you could do no better than feed her all the clover hay she will eat up clean, a fair share of roots, either turnips or mangolds, say, 25 lbs. per day (carrots are not so valuable for cows as for horses), and 1 lb. of concentrates (meals) for every 3 lbs. of milk per day. If alfalfa hay is fed, she will need less meal, as good alfalfa is about equal pound for pound with wheat bran.

Bungalow Plans

C.E.F., Ontario. — Can you send me plans for the bungalow which appeared in the February number last? I like this one very much.

Answer.—We have a number of house plans for which we have building plans and we are arranging these to put them out in regular order to enquirers very shortly. In the issues in which we show buildings of which we have the plans we make mention of it in the article. If you require plans for any one of these houses we would be glad to have our architect draw them and they would cost you $10. The plans and specifications both would be $20, so that if you wanted any particular changes made you could notify us to that effect and we can have the plans made to suit.

Books for Soldiers

H.C., Ontario.—Can you send me lists of books suitable for a soldier in France to study re farming in Western Canada? Some that tell of yields, prices, methods of marketing, etc., would be useful.

Answer.—There are few books published on farming in Western Canada. The most of our information comes from pamphlets or bulletins issued by the various departments of agriculture. I think you would be wise in writing the Departments of Agriculture at Regina, Edmonton, and Winnipeg for any bulletins on practical farm crops on the prairies. Also F. T. Fisher, secretary of the Edmonton Board of Trade, issues a bulletin on farming in that district.

You might make a similar request of the College of Agriculture, Madison, Wisconsin, U.S.A., for similar information.

As for yields and prices over a series of years send to the Census and Statistics Office, Ottawa, for their issues of July, 1916 and 1917, as well as any other issue in which the total values and acreage are given.

As for books they are legion. Each subject, as swine breeding, feeding, etc., has good works thereon. What your friend wants is general and grain farming ideas, I should judge. And ideas on this should be gained best in the bulletins and reports of the Central Experimental Farm at Ottawa.

Breeding a Laying Strain

Continued on page 15.

that can make a record of 120 eggs or better in the five winter months will make a record of far over 200 eggs in the year. For this reason, Oldham Farm originated in 1914 the method of "winter records," and it is expected that in time all breeders of "bred-to-lay" poultry will follow.

For any attempt at the scientific building up of such a strain trap-nests seem to be almost imperative. Every other method of selection must have such a large element of chance in it that it is almost useless. A man who has had a great deal of experience with poultry, and who has time to spend much time among a flock can certainly make a guess at the hens that are producing the most eggs in the winter, and can choose these hens at any time during the year by certain well known signs, but on the whole the trap-nest is the only method which will give positive results. By careful selection, and with an understanding of the appearance and characteristics that go with heavy laying, a man can do a great deal toward increasing his average production, even without trap-nests, but he never feels certain that he is getting anywhere.

The peculiarities in appearance of the heavy laying hen are texture of comb, which should be soft and velvety, color of shanks, which should be faded out to a blue-white color after the period of heavy laying, and time of moult—the heavy layer almost invariably moulting later than her less ambitious sister. Besides these signs which apply to all breeds, we have for the white Leghorn one other—the color of the earlobe. A white Leghorn hen when she has not been laying has an earlobe of a bright yellow color, but soon after she commences heavy production she "lays the pigment out" (the same as she lays the pigment out of the shanks), and the color gradually fades until it becomes a real blue-white in hens that have kept up a heavy production for a considerable period of time.

Breeding for an increased sized body in the birds of a strain can be done without trouble if sufficient time is taken to the job. The reason that all these characteristics are difficult to get is that so often one conflicts with another; for instance, an unusually fine large hen may be found to have a poor winter record, or an extra heavy layer may be a small bird. The same difficulties apply to breeding for the size of eggs laid, but if one has a sufficient number of birds to select from, and uses only those which are as near perfect in every particular as possible, the most gratifying results will follow in a very few years.

Constitutional vigor is a characteristic of the most vital importance, and the one which really requires the most careful study, and on which the breeder has to take the greatest chances in his attempt to fix the other characteristics mentioned. To fully understand these difficulties it will be necessary to go a little more deeply into the biological side of the matter. A large share of the pullet's qualities come from her father's side of the family—of that there is no doubt, and to get quick results in breeding for egg-production the best method is to buy male birds that are known to be the sons of heavy producing hens.

To be Continued.

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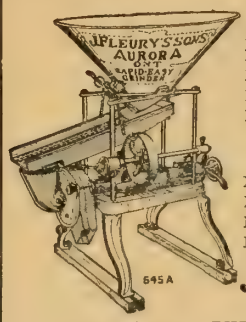
A size to suit your power—small or large—and more work with same power than others. Quality of work and capacity and durability of Machine and grinding Plates unequalled.



A few styles and sizes are as follows:

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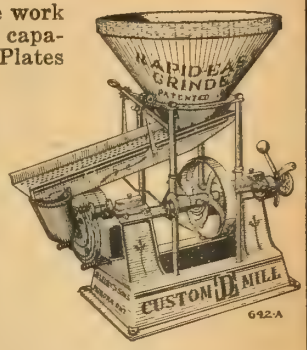

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Hallam's Trappers' Guide—96 pages; illustrated; English or French; tells how and where to trap; what bait and traps to use; is full of useful information.

Hallam's Trappers' Supply Catalog—36 pages; illustrated; rifles, traps, animal bait, headlights, fish nets, and all necessary trappers' and sportsmen's supplies at low prices.

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Write to-day. Address giving number as below.

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WHY build with inflammable wood when you can get fireproof, weather-proof and lightning proof "Metallic" building materials. They are far cheaper in the end. "Empire" Corrugated Iron Siding is easily and quickly laid and makes a strong, rigid wall. Its light weight makes heavy construction unnecessary.

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"Metallic built" means fireproof, stormproof, neat and durable construction.

Before buying any building materials write us for Booklet and complete information. We can save you money.

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Compare the SANITARY KING with ALL other CREAM SEPARATORS

Then you will understand why so many farmers are using the

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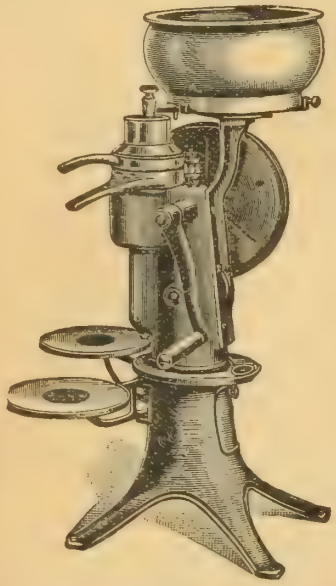
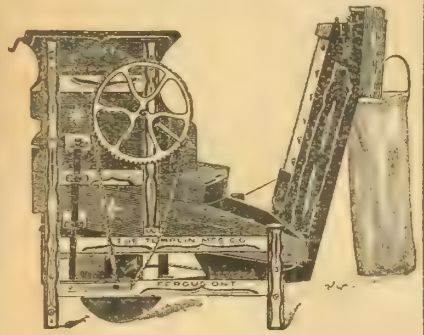


Built of the very best material which insures long life. Stands Solid. Turns easy. Close skimmer. Splash oiling system. Solid or detachable spindle. Capacities for from one cow to a large herd. Operated by hand, gasoline or electricity. Sold on easy terms if desired. Write for local agent's address. Try it before you buy it.

King Separator Works of Canada
BRIDGEBURG - ONTARIO

PERFECTION SEED AND GRAIN SEPARATOR



The best mill ever built. Every farmer who uses one says so. Will do work no old-style mill ever attempted, and do it right. Turns twice as easy as any other, as it has two balanced shoes. The curtain screens and galvanized deflectors used only in the Perfection, makes a perfect separation of wheat from oats, cleans clover of all kinds, and flax also, and pays for itself every season. The Perfection always wins when compared with others. 18 screens sent with every mill. Not sold by The T. Eaton Co. now, so write direct for free Circular A.

The Templin Mfg. Co., Fergus, Ont.

December is here, and there is no let up of work and worry. For the good weather of November we are thankful. We have much yet to do, while the uncertainties of conscription and the disturbances of elections keep us on the qui vive. It is true that many farmers and farm mothers have been distressed by the desire to produce more and the desire to help with their boys at the front. It is impossible to do more than many already poorly manned farms are doing. And, unless we conscript men to the farms, somebody is going to go hungry in America. Because my neighbor has three sons that is no reason why he should think of sending one or two of them to the front when a dozen neighbors have no help at home. The boy who can best aid production is the boy from the farm.

Nevertheless, let us be heroic and hopeful at this time above all others. The world is still in the hands of a superintending Providence who will not permit the mechanism to jump a cog or go one revolution more than wisdom says is well. We need more moral fibre in our make-up. We want to be able to look everyone in the face and prove to the world that agriculture is actuated by the highest of motives, that our farms are ours, but ours to serve best the rest of humanity. Because men are profiteering, because others are feathering their nests, because rich men are seeking the power of riches to control, these are no reasons why we, as farmers, should sell our souls to do likewise. And the Christmas idea bids us to ring out the old, the sordid, the unkind, and ring in the new vision, the world of helpfulness and honesty to all mankind. Above all, the farm should be a place of kindness, love, sympathy, and helpful service to a burdened world. Let us bare our arms to the tasks ahead—let us keep our hearts warm and kindly, and the Canadian farmer will get thereby the best out of this terrible world struggle.—Grasmere.

Plan Big Things

Is your fire insurance policy kept in shape?

See that all eavetroughs are clean and working right.

Planning next year's work will save you much labor.

Do not hoard foodstuffs after you can get a paying return to yourself.

Watch all furnace pipes, hot water pipes and chimneys to see that there is no defect.

A telephone in the farm house is almost a necessity now. It runs many a message for us.

Lay aside your potato seed for 1918 and secure Northern grown immature seed if you can.

It is a good plan to protect windows with wire screens where animals are likely to break the panes.

Do not stuff up your windows with old hats or straw. Get a new pane and have the use of the light.

Above all keep up the social side of your life. Smile! Invite friends in occasionally and be pleasant!

Shortage of coal will keep us hunting wood this winter. A saw and gasoline engine will do the job quickly.

Do the best you can, with your short labor situation and keep as many good animals as possible for the time that's coming.

Attend your annual school meeting this month and put more life into the school section if you can. The little red school has been pretty dead lately.

Order your fertilizers now and arrange with your club or neighbors to use a full carload. Transportation cannot be depended on during the spring.

Support your farm club or organization and counsel wise treatment of the local town or village men. The farmers' clubs can never make a success of retail merchandizing. Order the big things in car lots only. More attention should be given to selling coöperatively.

The Sheep Fold

Better secure your sheep feed now before prices get any higher.

Dip your sheep on a warm day before they go into winter quarters.

Sheep prices have advanced so rapidly

this fall that one must watch the ewes and lambs better than usual.

Ticks and lice will add to the feeding costs immensely.

I feed my bunch of breeding ewes the following daily ration of oats and wheat bran mixed 3 to 1; I give one-quarter pound per day per ewe fed at night. They get twice a day feeds of clover hay, alfalfa or oat and pea straw. Each day in the forenoon I throw them a turnip apiece.

Any cull lambs should be taken into a separate pen and fed for the butcher.

Sheep want a dry, airy pen with lots of sunshine.

Protect the wool from chaff and dirt of all kinds. It pays. Wool will likely advance in price.

In the Dairy Barns

Do not get discouraged but hang on to your herd a while longer.

Save labor by every kind of machinery and invention you can.

Use a spray pump to whiten the walls and disinfect the stalls.

Weigh the milk as much as possible and keep records.

The producing cow that is guaranteed can command almost any price.

There is plenty of straw for bedding this year. Haul the manure to the fields daily if possible, spreading it as it is sent out.

Feeding rations for the cows can be worked out. If you have trouble send us your feeds and we will have our experts work out your ration.

Be honest about all your breeding records and show entries.

A good man is better than a good cow, but a good dairy man always has a good dairy cow.

Many farmers are using their gasoline engines or tractors to cut up their straw, having it blown into the mow.

Make as frequent deliveries of your cream as possible. Suit the size of the can to the size of your herd. Ship at least twice a week in winter.

Be sure to keep a constant supply of pure water and salt for the cows.

Watch for the proper physiological effect upon the individual cows of the grain you feed.

Every stable should be supplied with the following drugs kept in a locked cupboard, each separate kind being distinctly labelled. In the recent Ontario bulletin the following drugs are named.

10 lbs. Epsom salts 1 lb. ginger 1 gal. raw linseed oil 1 quart castor oil	Purgatives and laxatives.
½ pint olive oil 1 lb. lard 1 pint camphorated oil 1 lb. vaseline	Applications to udders and teats.
1 pint turpentine	Bloating.
1 lb. carbolic acid 1 lb. boracic acid 1 gal. zenoleum, creolin or chloral naptholeum	Disinfectants.
½ lb. sulphate of iron ½ lb. gentian 1 pint whiskey or brandy	Tonics and stimulants.
½ doz. sticks caustic potash	For dehorning calves.

In addition to the above, the following appliances for treatment of diseases and the administration of medicines can profitably be included:

Drenching bottle with long neck.	Clinical thermometer.
Trocar and cannula, for bloating.	Injection pump, or 6 ft. half-in. rubber hose with glass funnel.
Graduated measuring glass.	Hard rubber syringe.
Milk fever apparatus.	3 milking tubes.
	Set of hand clippers.

This Gift to the Whole Family

On the Winter's evening when the chores are done comes the hour of music. How pleasant then to have at your command all the masters of harmony the World over! How comforting, how peaceful, what a solace for the trials of the day to gather your family around you and together wander through the realms of music!

Style A

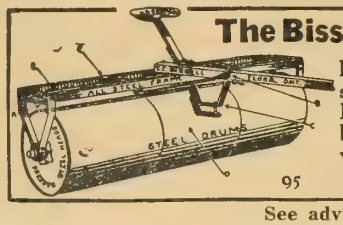
BRANT-OLA

THE PHONOGRAPH DE LUXE

Makes all the joys of music yours. It brings into your home the sweetest singers, the most accomplished instrumentalists, the most laughable comedians. The favorite songs of your childhood, the old fashioned melodies your mother crooned to you; the gems of Grand Opera; the choicest sayings of your favorite "funny man"; the latest ragtime; all these and many more are yours in perfection if there's a "Brant-Ola" in your home.

The Brant-Ola is Canadian made; that is why prices are so much lower than others and therefore makes an ideal Christmas gift to your family—this beautiful instrument which brings to each his or her favorite artist! If you knew at what small initial cost a "Brant-Ola" could be introduced into your home you'd surely have one. Let us tell you how it can be done. Christmas will soon be here, so don't put off. Write to-day. Brant-Olas are sold at the following popular prices, $65.00, $90.00, $130.00, $150.00, $200.00.

BRANTFORD PIANO CASE CO., LIMITED
BRANTFORD, ONTARIO



The Bissell Steel Roller has a rigid steel frame —no wood whatever. Large roller bearings and strong 2" axles insure durability and great strength. The Bissell is a 3-drum Roller of good weight, built to stand hard usage and give great service. Write Dept. Y for free catalogue.

95 T. E. BISSELL CO., LTD., Elora, Ont.

See advt. also on page 68.

Priestleys' Priestleys'

A suit or dress, no matter how good its style or tailoring, is no better than its cloth. A few wrinkles, a little stretching will ruin the most fashionable and finely tailored gown ever made.

Priestleys' DRESS GOODS

are used by the best dressed women the world over. This cloth, in a wide variety of color and weaves, from the famous mills at Bradford, Eng., is on sale at leading stores throughout Canada.

Look for the name on the selvedge.

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HAVE YOUR CLOTHES
Made-to-Order for only
Always $16 to measure

Plaids, Shepherd Plaids, Scotch Tweeds, fancy and pencil stripes. Your choice of any cloth, plain or fancy weaves, rough or smooth finish,—tailored to your own measure at our fixed price of $16.

Send the coupon for our new style book and some samples of cloth. We give you full instructions how to make your measure. We will have your suit or overcoat ready in ten days.

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254 Richmond St. West,
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Gentlemen:—Please send me your free colored style book and samples of fabrics for suits and overcoats made-to-measure at $16.

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Who in Canada is there WHO DOES NOT NEED AN INCREASE in income to take care of extra expenses? If you are one of the many who would appreciate an opportunity of turning your spare time into Cash profits, we would like to get in touch with you.

Hundreds of men and women in Canada to-day are working our plan to augment their present income and it's providing a liberal amount of extra funds for them. If you would like to join this "thrifty class" of spare time hustlers—write us to-day.

The MacLean Publishing Co., Ltd.
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About Live Stock

What Will Prize Steers Bring in 1917?

The following are some of the facts about the prize-winning steers at the past International Shows at Chicago:—

Year	Name	Breed	Price Sold For
1916	California Favorite	Angus-Shorthorn	$1.75
1913	Glencarnock Victor 2nd	Angus	Not sold
1912	Glencarnock Victor	Angus	.50
1911	Victor	Angus	.90
1910	Shamrock 2nd	Angus	.60
1909	King Ellsworth	Angus	.18
1908	Fyvie Knight	Angus	.26½
1907	Roan King	Shorthorn	.24
1906	Peerless Wilton's 39th Defender	Hereford	Private sale
1905	Black Rock	Angus	.25
1904	Clear Lake Jute 2nd	Angus	.36
1903	Challenger	Mixed	.26
1902	Shamrock	Angus	.56
1901	The Wood's Principal	Hereford	.50
1900	Advance	Angus	1.50

The 1913 and 1912 winners were from Manitoba, and the 1907 from Ontario. Prices this year, if they follow the general trend, will go up sharply.

Percherons Looking Up

At a recent meeting of the Canadian Percheron Horsebreeders at Calgary, Geo. Lane said the breed never had before such an opportunity in this country, he doubted if the men present would see it again and urged them to strike the iron while it was hot. The *Breeders' Gazette* of Chicago was quoted as authority for the statement that in England such prominent men as the Prince of Wales, Lord Lonsdale, Sir Henry Hoare, Sir Merrick Murrell and other landed and titled gentry are taking up Percherons and going to breed them. It was also stated that 269 Percheron stallions and mares had been shipped from the United States into Canada during the six months ending May 1, 1917. Extracts from the reports of the Stallion Enrollment Board of Ontario showed fewer stallions were recorded in 1916 than in 1913 of the Clydesdales, Shires and Belgian breeds, but during the same period the Percheron gained about 30 per cent. In Saskatchewan from 1912 to 1916 the gain of the Clydesdale was 37 per cent.; the Percherons during the same period in this province gained 84 per cent.

Corriedales in Alberta

The Dominion experimental farm at Lacombe, Alta., has just imported from Cheyenne, Wyo., a Corriedale ram for experimental purposes. This breed is distinctively a range sheep and combines the best qualities of the Lincoln and Australian Merino.

A County Grange Meeting

If there is one place in Canada where the old Grange holds the affections of the farmers, it is around Middlemarch in Elgin County, Ontario, where the spirit of the late Jabez Robinson, ex-M.P., still goes marching on.

Elgin County holds two county grange meetings, the spring one at St. Thomas and the fall one at a subordinate lodge. Last month Middlemarch was the place of meeting. Master W. E. Wardell occupied the chair and had all his officers present with one exception.

Considerable interest centered in the exhibit of beets from the ladies' competition. The seed of the Dark Red Detroit variety was distributed last spring, a spoonful to each. The competitors were required to fill out a form stating dates of sowing, appearing, hoeing, thinning, pulling and results and to show two of the largest and the best shaped. The number obtained reached hundreds. Mrs. McNiven reported three and a half bushels. The largest weighed over twelve pounds, grown near Somers Corners, by Miss Alice Palmer, whilst twenty-four inches in circumference was a common measurement. The beets were donated to the Y.W.C.A., St. Thomas.

Good Prices for Shorthorns

The semi-annual sale of the Western Ontario Shorthorn Breeders' Association took place at London in November and 101 animals were sold. $700 was paid for one of E. Brien & Son's cows of Ridgetown. The heifer calves sold for $300 to $600.

Some Substitute Pig Feeds

If corn is taken as the most profitable feed for fattening hogs, the substitute must come proportionately cheaper as it lowers in feeding value. If, for example, a pound of feed with a feeding value of four-fifths that of corn, it should cost at least one-fifth less. Here are some other feeds.

Crushed oats are three-fifths value. They should cost two-fifths less than corn and should never furnish over two-thirds of the ration. They add bulk to the ration and are especially good for brood sows.

Barley when crushed is an excellent feed for swine and can be substituted entirely for corn, even when it costs the same per pound.

Rye when costing nine-tenths as much

as corn per pound can be substituted for corn in the ration. It should be fed ground or crushed and is best fed as a slop.

Frosted wheat or wheat damaged in other ways and unfit for milling can be substituted even when equal in cost to corn per pound. Wheat should be ground, crushed, or soaked.

Buckwheat can be substituted for corn when it costs one-tenth less per pound. It should be fed ground and is best as a partial substitute, for it tends to produce a poor quality of fat.

Millet can be substituted for corn when one-fourth cheaper per pound. Millet should be ground and fed always with a rich protein supplement. For fattening hogs in cold weather it is not so good and produces a soft pork.

Wheat shorts or middlings are a by-product of the milling of wheat. While a feed high in protein, it can be substituted for corn when one and one-tenth the cost of corn. It is best as a nitrogenous supplemental feed and when forming but a part of the ration. Owing to its heavy pasty nature, if fed alone for a long while digestive troubles are liable to occur. No protein supplement is necessary for a ration of shorts, though lime, in which shorts are low, should be supplied.

Weed seeds from grain elevators can be substituted for two-thirds of the corn in a ration. They should be ground and cooked before feeding.—From the U. S. D. A.

Why the Runt?

It perhaps never will be known why one pig in the litter is so much inferior at times over the balance, and yet there is what is called a perfect "nick" in which the whole litter will be as even as peas in the pod. When this "nick" is proven it should be carried out in repeated matings because it is a valuable point discovered to know just what may be expected, as there are no indications by which this can be ascertained with certainty until tried.—A.S.B.

Mare's Short Gestation

A note in the *Comptes Rendus* reports the case of a mare, Walkyrie, which foaled November 7th, 1915, after only 233 days of pregnancy; a record which reduces materially the minimum period of gestation hitherto stated for horses; viz., 287 days. The offspring, which was perfectly viable, weighed 128 pounds, and had a height to the withers of 36 inches. The only apparent incomplete part at birth was the epidermis of the feet, which grew rapidly during the first few days of the foal's life.

United Farmers' Annual Meeting

The annual meeting of the United Farmers of Ontario and of the United Farmers' Co-operative Co., Limited, will be held on December 19th, 20th and 21st, at 65 Church St., Toronto.

Dispersion Holstein Sale

DUNBARTON FARM, DUNBARTON, ONTARIO

December 12th., 1917

Giving up dairy business. Entire herd will be sold by auction, including two-year-old PRINCE BONHEUR ABBEKERK, Junior Champion, London, 1916 and 1917; Toronto, 1917. EMMA DEKOL PAULINE—Made 20.17 lbs. of butter in 7 days at 3 years. PERFECTION'S TORONTO QUEEN—Made 20.05 lbs. of butter in 7 days at 6 years. A number of good heifers sired by Sir Siepkje Fayne and bred to Prince Bonheur Abbekerk.

G.T.R. stops right opposite barn. Will meet Kingston Road Radial leaving Toronto at eleven o'clock, also C.P.R. and C.N.R. trains by special arrangement.

TERMS—10 months bankable paper; 6 per cent. discount for cash.
Write for catalogue.

COL. MARSHALL, Proprietor, Dunbarton, Ontario

THOS. McGLASHAN, Superintendent. **J. H. PRENTICE, Auctioneer.**

The Economy of Eddy's Indurated Fibreware

The Ware That Never Wears

Eddy's Indurated Fibreware is made from wood pulp—Wash Tubs, Wash Boards, Butter Tubs, Milk Pails and other articles of daily use being moulded under intense pressure. This heavy pressure squeezes out every drop of moisture, leaving a dense, hard, tough material that is smooth in finish, light in weight and of unsurpassed wearing qualities. There is no other ware that, price for price, will wear anywhere nearly as long as Indurated Fibreware.

Tubs in 4 Sizes

Milk Pail

But not only because of economy should Eddy's Indurated Fibreware utensils be used in your home and dairy. They are much more easily and thoroughly cleaned because they have no seams or cracks; they do not transmit any flavor to their contents because all flavors have been squeezed out in the making; and they save you much physical effort because they are so light.

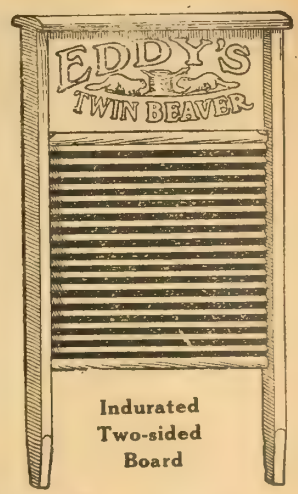
We would like you to write for full particulars of our Indurated Butter Tubs, Milk Pails, Milk Pans, etc.

The Matches with no After-glow

Eddy's Chemically Self-Extinguishing Silent 500s are the absolutely safe matches that become "dead" once they have been lighted and blown out.

Eddy's Indurated Fibreware Washboards

Eddy Indurated Fibreware Washboards make possible the thorough washing of the finest fabrics without danger of damage. No metal to catch. No wood to splinter.



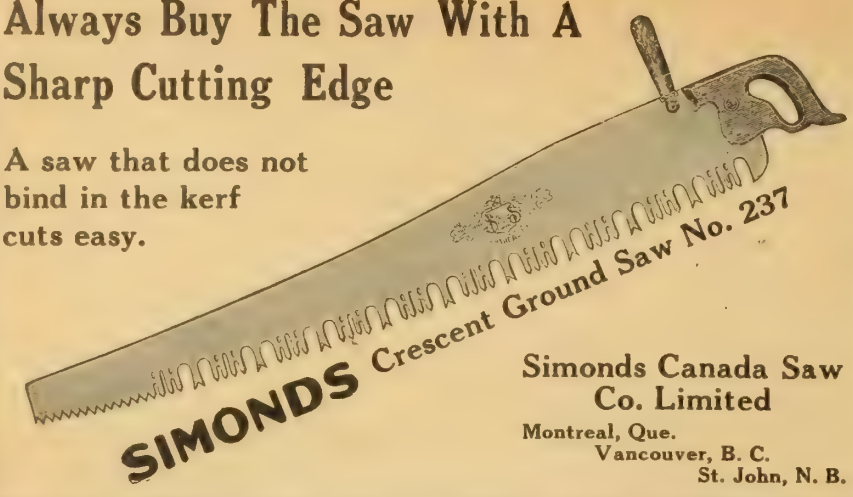
Indurated Two-sided Board

It is very easy to say, "Eddy's, please," and it means much in value.

THE E. B. EDDY CO. - - HULL, CANADA

Always Buy The Saw With A Sharp Cutting Edge

A saw that does not bind in the kerf cuts easy.



Simonds Canada Saw Co. Limited
Montreal, Que.
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"THE LARGEST EGG FARM IN CANADA"

OLDHAM FARM

LEWIS N. CLARK, Owner and Manager — PORT HOPE, ONTARIO

A Poultry Farm that is run solely for the production of market eggs.
A Poultry Farm that sells hatching eggs, day-old-chicks, and breeding stock at reasonable prices, but that sells no "show birds" at fancy prices.

BUT

A POULTRY FARM THAT PAYS——— WHY ?

Because "Oldham Strain" of Single Comb White Leghorns produces a higher average number of eggs per hen per year, we believe, than any other strain, in any country.

A Salary---
of $100.00 a month

figures out at the rate of 50 cents an hour, and it is an attractive figure at that.

But you can earn—easily and quickly

A DOLLAR an HOUR

for every spare-time hour you devote to our new and renewal subscription business in your district.

Our Resident Representatives make this average right along.

They are not miracle-workers; only workers. Each evening they devote an hour or two to securing new and renewal subscriptions to MACLEAN'S and FARMER'S MAGAZINES. They make a liberal commission besides a salary, on each order

You can become a money-maker by the same plan. No experience or traveling is necessary, no investment required. Your spare hours will bring you a cash profit. The plan is yours, write to-day, it's worth knowing.

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Trucking $75,000 a Year

Continued from page 14.

The principal crops grown are celery, onions, cabbage, cauliflower, cucumbers, beets, carrots, parsnips, turnips, tomatoes, egg plants, pepper, spinach, lettuce, Swiss chard, parsley, leeks, and melons. The melons find a ready sale in Boston and New York, the gross receipts per acre amounting to as much as $4,000. In onions, such varieties are grown as Early Red, Red Globe, Yellow Globe, Red Weatherfield and Silver King. In addition to these the seed of some Italian varieties is imported. Celery is one of Mr. Del Sole's best paying crops because of his method in handling it. At picking time it is carefully sorted into three grades. Numbers two and three are sold at once, while the plants of grade number one are carefully crated and stored in a frost proof cellar for the winter market.

On the occasion of my visit to the farm this cellar was being filled with celery and other vegetables that would enable him to supply his trade right up to the beginning of a new season. It is simple in construction, and at first sight did not impress me as possessing any special features. In dimensions, it is about 200 feet long by 40 feet wide and is arranged in compartments enabling him to pack his vegetables four deep, each kind having a separate section. At one end a workshop and a sorting and packing room are arranged.

This business does not seem to be hampered by the labor problem to any great extent. From twenty-five to seventy-five picked and experienced men are engaged, according to the season, and they evidently had done their work well, for up and down the long rows I found it impossible to locate a single weed. Many of the men are housed in a new tenement, recently built for the purpose, and are industrious, well-paid, and contented.

Mr. Del Sole has just rounded out forty-five years and estimates that market gardening has netted him well over $200,000. This is pretty good evidence that there is money in the business provided the right man, the right place, and the opportunity get together.

A Case of Mistaken Identity

Soldiers have to do their own mending, and the thoughtful War Office supplies them with outfits for that purpose.

On the occasion of a recent kit inspection, says the *Journal of the American Medical Association*, the recruits stood lined up ready for the officer, and the officer had his bad temper all complete. He marched up and down the line, grimly eyeing each man's bundle of needles and soft soap, and then he singled out Private MacTootle as the man who was to receive his attentions.

"Tooth-brush?" he roared.
"Yes, sir."
"Razor?"
"Yes, sir."
"Hold-all?"
"Yes, sir."
"Hm! You're all right, apparently," growled the officer. Then he barked, "Housewife?"
"Oh, very well, thank you," said the recruit, amiably; "how's yours?"

More and Better Light---On Less Oil

Beats Electric

Test This Wonderful Coal Oil Mantle Light 10 Days FREE---Just Send the Coupon

Saves Money

ACCEPT this free trial offer. Find out at our risk how your home can be better lighted than a city home. For here's a light that *beats* gas, beats gasoline, beats even the tungsten electric light. It is five times as efficient as the ordinary round wick flame lamp. Who says it is? The Government Bureau of Standards says so—34 great universities say so—their exhaustive tests have proven it. This light was awarded the gold medal at the Panama Exposition as the world's best. To have this wonderful light in your home means money *saved*. It pays for itself, using less than half as much oil as round wick, open flame lamps.

Half the Oil Goes Twice as Far

Air is the most abundant thing in the world. Out of 94% *air* mixed with the vapor from the oil, the Aladdin, by the use of a mantle, creates the most mellow, restful, steady light ever produced. It burns 70 hours on a gallon of oil. *Saves eye strain* and brings cheer and contentment to the home. Dim lights have caused untold eye strain, headache and misery. The poor lamps of the country are responsible for the fact that one out of every five among country children has defective vision, while only one out of twenty among city children is similarly afflicted.

The Aladdin banishes dim light and eye strain. Saves the children's eyes, encourages study and reading—makes them glad to stay home.

$1000 in Gold
For Lamp Equal to Aladdin

To prove that our statements regarding the superiority of the Aladdin are not mere idle claims, we offer $1,000, ready for instant payment, to any person who can produce or show us an oil lamp equal to the new Aladdin. Write for circular giving particulars of this great challenge offer. This offer has been standing for more than four years, but up to the present date, not one single lamp has been submitted for a test.

Write for Yours To-day
Send No Money—Charges Prepaid

Let us send you an Aladdin to use ten nights in your home—charges prepaid—return charges paid too in case you are not entirely satisfied. Find out how it floods the whole room with mellow, cheerful light—how it really does beat gas, electricity and acetylene for brilliancy—how noiseless, smokeless and odorless it is—how it saves half or more in oil and actually pays for itself.

Keep the Aladdin Without Cost

We have thousands of inquiries from our advertising. We want a user in *your* neighborhood, so we can say to inquirers: "Go and see the lamp." If you are willing to let folks *see* your Aladdin lighted up, you can *keep* yours without cost. Send the coupon. The *first* applicant from each town is offered this chance. Send the coupon to-day. *Be the first.*

The Mantle Lamp Company
276 Aladdin Bldg., Montreal

Largest Kerosene (Coal Oil) Mantle Lamp House in the World
Also Offices and Warerooms at Winnipeg, Chicago, New York City, and Portland, Ore.

Get an Aladdin FREE

MAKE A LOT OF MONEY

Just Send the Coupon

Get the wonderful New Aladdin for your own home free—and in spare hours make more money than you've ever made before. You can do this without interfering with other work, without disturbing your pleasure.

No experience is necessary. You don't have to be a good talker. Our wonderful light "talks" for itself. No investment necessary. We furnish the goods on 30 days' credit. Send the coupon. Look into this wonderful opportunity now.

Make $100 to $300 per month, spare time same as these men, without experience Aladdin. **The first five days I sold 17 lamps.**" Claude Bridges, Macon, writing April 24, 1917, said: In the three months' time I have been working **I have sold 120 lamps.**" Bert Archenbronn, Grass Lake, "called at 30 homes--sold 24 lamps--and all in less than 6 days' work." R. L. Eberman, Metzger, wrote March 29, 1917: "**I have sold hundreds of Aladdin lamps** in a field honeycombed with electric light current." W. B. Stine, Surprise, **sold 8 Aladdins in 4 hours.** G. R. Baldwin, Marysville, **sold 33 in one week.** Rev. Theo. L. Blanken, Milford, **sold 5 in one afternoon.** We have thousands of letters like these from all parts of the country. Geo. B. Quimby, Elma, R1, wrote April 1st, 1917; "I never sold anything before I started with the

Send No Money—Send Just This

THE MANTLE LAMP CO., 276 Aladdin Bldg., Montreal.

Gentlemen:—Send me full particulars about:—

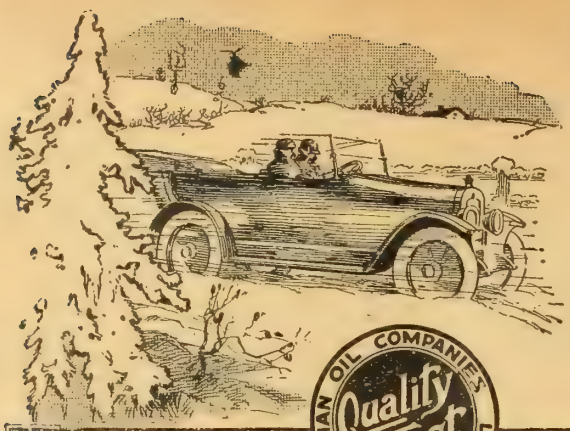
- ☐ Proof that the Aladdin Mantle Lamp gives the world's best light at a big saving in oil.
- ☐ Your offer to send the Aladdin PREPAID for ten days' FREE trial and how it can be KEPT without charge.
- ☐ Your plan whereby I can get an Aladdin free and make a lot of money without the need of experience or capital.

(NOTE:—If you are interested in the money-making opportunity, write a letter and attach to the coupon, tell us something about yourself, whether or not you have a rig or auto to work in rural districts, give your age, present occupation; say whether you can work full time or just part time, when you can start and what territory you would prefer. Hurry your letter before territory is taken).

Name .....

P. O. .....

R.F.D. or Street No. ..... Province .....



Know the Greater Satisfaction of En-ar-co PETROLEUM PRODUCTS For Winter Days and Nights

CANADIAN OIL COMPANIES LIMITED — Quality First — EN-AR-CO BRANDS

En-ar-co PETROLEUM PRODUCTS

Your Friction Tax

How You Can Reduce It Permanently

Every motor operator must pay, when his machine is in motion, a friction tax. The burden of this expense is heavy or light, according to the owner's thoughtful care in selecting lubricants.

Even the most finely ground and polished surfaces are known to consist of thousands of minute projections. These metal-to-metal surfaces must be "cushioned" with a film of good lubricating oil.

But this film is not the only requirement to bring positive satisfaction and low friction tax. The lubricant must perform its function under extreme heat —often 1200 degrees—with a minimum carbonization.

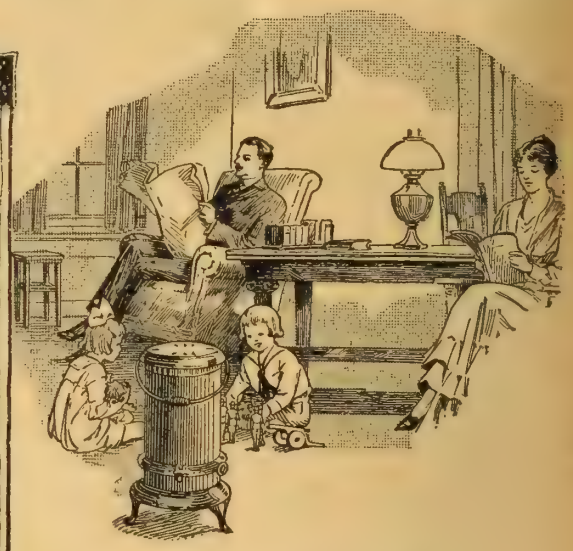
Use En-ar-co National Motor Oil

The quality of En-ar-co Motor Oil has been proved by 34 years of scientific tests and actual performance in thousands of farm motors. Your automobile, tractor or gasoline engine will develop a more responsive, flexible power and last longer if you use this power saving lubricant. It successfully withstands extreme heat and cold, doing its work with the least possible carbonization. Thus your friction tax will be reduced to a minimum—your satisfaction increased to a maximum.

Try En-ar-co products now Use En-ar-co National Motor Oil and White Rose Gasoline this winter. Test them under winter's most trying conditions. Then you'll be prepared to meet the coming season with a new and greater power.

There is a quick and certain way to know the right oil for you. Send us the name and model of your motor and tell us how long and under what conditions you have operated it. Our experts will give you valuable information free.

SEND THE COUPON NOW FOR HANDY OIL CAN AND VALUABLE LUBRICATION AND POWER FACTS.



Keep Your Home Warm, Cozy and Bright

Don't subject yourself, family and friends to uncertain warmth and cheerless light any longer—use National Light Oil in your

Oil Stoves and Lamps

This "better" oil burns evenly and cleanly. No smoke, no smell, and every drop burns. No more dirty carbon residue or clogged burners in oil stoves. In your lamps it will impart a wonderful light. Clear, white rays replace the flickering, yellow flame of "just oil." And there's an end to clouded chimneys, charred wicks and poisonous fumes.

For Incubators and Brooders

These burners require pure oil. The heat must be uniform and continuous. Deadly gases penetrate and clog egg shell pores and kill live chicks in the brooder. You cannot afford to take chances on low grade oil. To obtain the ideal heat—a chick from every hatchable egg — use National Light Oil.

Sent FREE

To Auto and Tractor Owners

This long can with a long spout that enables you to reach the hard-to-reach parts "oil-right"

Sent FREE

Canadian Oil Companies, Limited, Dept. C-3 2-12 Strachan Ave., Toronto, Ont.

I own..... (Give name above) automobile or tractor and enclose two 2-cent stamps. Send me Handy Oil Can FREE. Please give nearest shipping point in this province and quote prices on the items I have marked. I will be in the market about ..... (Give date above)

I use....gals. gasoline per year, I use....auto grease per year.
I use....gals. motor oil per year, I use....gals. kerosene per year.
I use....lbs. axle grease per year. I use....gals. tractor oil per year.

My Name is.....

Address .....

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Tear or Cut Out—Mail Today

NOTE: This can will not be sent unless you give make of your auto or tractor.

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THOROUGHBREDS

King Ormsby Jane Rag Apple

Illustration showing Instrument Board on Chevrolet Four-Ninety. Electric starting and electric lighting switch, speedometer, electric horn, ammeter, oil indicator light equipment, gear shift lever. The Four-Ninety has selective sliding gear transmission with three speeds forward and reverse.

$53,200.00 seems a big price to pay for a five month's old calf, yet this is what D. W. Field, of Brockton, Mass., paid O. Cabana, Jr., of Buffalo, for the Holstein Bull Calf here illustrated, King Ormsby Jane Rag Apple, in June, 1917.

But the price does not seem too high when the records of "King Ormsby's" ancestry are known. Every one is a record breaker. His sire brought $25,000 at auction; his dam holds many records for milk production and for generations expert Holstein Breeders bred with the greatest care the strain resulting in King Ormsby Jane Rag Apple.

The Chevrolet Four-Ninety—the Product of Experience—is a thoroughbred motor car and would cost much more than $53,200 were we to build only one car. But mammoth production and efficient management enable us to manufacture the Four-Ninety in such large quantities that the cost is reduced and is within reach of the average man's purse.

The complete equipment, comfort, beauty, power and efficient mechanism makes the Chevrolet Four-Ninety the best car for the Canadian farmer.

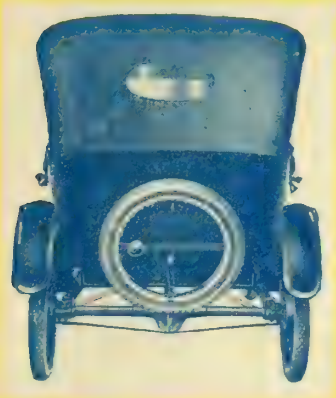
Send for catalogue giving description and price.

CHEVROLET MOTOR CO. *of* CANADA, LIMITED,
OSHAWA, CANADA

Western Parts and Distributing Branches: REGINA and CALGARY

OVER 500 DEALERS THROUGHOUT CANADA

CHEVROLET



Rear View showing extra tire, tire carrier, and tail lamp with license bracket attachment.

Chevrolet Four-Ninety
Five Passenger
Touring Car.

Farmers! Plan Now For Next Season's Crops

GATHER INFORMATION ABOUT

The best varieties of Grains and Roots;
The most profitable breeds of Cattle, Sheep, Swine and Poultry;
The Manufacture of highest quality Butter and Cheese;
Best orchard methods;
Production of finest Honey;
Farm tractors, gasoline engines and motors;
Reclaiming land by underdrainage;
Business management on the farm.

FREE SHORT COURSES

at the Ontario Agricultural College, Guelph, Ontario

The college charges nothing for this instruction. It is absolutely free, and the only expense you have to meet is board while in Guelph and railway fare at reduced rates.

Stock and Seed Judging

[illegible] This course is [illegible] in the care and [illegible] of seed, seed establishment, weeds.

Poultry Raising

[illegible] Jan. 8th to Feb. 2nd. This course is open to women as well as men. The [illegible] Ontario is on [illegible] and agriculture [illegible] made easy.

Horticulture

[illegible] Jan. 21st to Mar. 2nd. This year the course in horticulture is so arranged that one may obtain a complete course in fruit growing during the [illegible] weeks, vegetable growing the third and [illegible] weeks. [illegible] Spraying.

The Dairy Courses

The Factory Dairy Course

[illegible] Jan. [illegible] to Mar. 2nd, prepares young [illegible] as managers of dairy factories. There is a constant demand for [illegible] in the science and practice. The dairy is furnished with all [illegible] and a good dairy herd is maintained [illegible] a valuable opportunity for young [illegible] interested in the dairy business.

The Farm Dairy Course

[illegible] Jan. 21st to Feb. 6th, commences after the [illegible] Judging Course is completed, giving students of that course to obtain [illegible] practice for [illegible] machinery is used [illegible] the entire course or less.

[illegible] given on Cow Testing, Mar. 25th, [illegible] on Making, Mar. [illegible] to [illegible] Course Making, Mar. [illegible] to [illegible] 3rd.

Bee Keeping

[illegible] Jan. 8th to Jan. 26th. The instruction [illegible] of this course is elementary, [illegible] two weeks being more advanced. The [illegible] include methods of management [illegible] the season, bee diseases; [illegible] The attention to practical work is devoted to preparation of supplies for the summer; wax rendering [illegible] which can be done [illegible].

Much of the instruction in bee keeping cannot be [illegible] and for this reason a summer course is offered during the second week of June [illegible] the practical handling of bees is featured.

Drainage and Drainage Surveying

[illegible] Jan. 8th to Jan. 19th. Thousands of [illegible] land in Ontario may be reclaimed [illegible] and this course gives [illegible] farmer may do his [illegible] of tile. Instruction in [illegible] in machinery is a strong feature of the course and some attention is given to the construction and care of gasoline engines.

Farm Power

[illegible] including Farm Tractors, Gasoline Engines, Motors, etc. (2 weeks) Jan. 21st to Feb. 2nd. During the past summer there was a special demand for men who could properly operate farm tractors and some difficulty was experienced in obtaining men with the necessary experience. This course is planned to give thorough instruction in tractors and all other power on the farm including gasoline engines, electric motors, etc.

Business and Marketing

[illegible] Jan. 8th to 19th. The lectures of this course are given in the evening only, on subjects [illegible] including all the courses commencing on [illegible] 8th, [illegible]. The necessity of good business management in farming is being more [illegible] and this course is planned [illegible] suggestions and assistance to the [illegible] of the farmer in working out their own business problems. Bookkeeping, banking, organization [illegible] and marketing are some of the principal features.

THESE SHORT COURSES ARE FOR THE SPECIAL BENEFIT OF FARMERS AND FARMERS' SONS WHO FIND IT IMPOSSIBLE TO ATTEND COLLEGE EXCEPT FOR SHORT PERIODS IN THE WINTER.

An illustrated Short Course Calendar, giving in detail all short courses, will be mailed on request.

G. C. CREELMAN, President